

REPORT ON MACHINERY.

No. 10438

Received at London Office

Date of writing Report 12th Jan. 1920 When handed in at Local Office 10 Port of Southampton
No. in Survey held at Southampton Date, First Survey 14th Sept. 1918 Last Survey 1st Jan. 1920
Reg. Book. on the S. Tug. S^t MINVER (Number of Visits 41)

Master Built at Southampton By whom built Day, Summers & Co. Ltd. Tons Gross 413.91 Net 7.14
Engines made at Southampton By whom made Day, Summers & Co. Ltd. when made 1919
Boilers made at Do. By whom made Do. when made 1919

Registered Horse Power Owners The Admiralty Port belonging to
Nom. Horse Power as per Section 28 208 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Inverted Triple Surface Condensing No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 18 $\frac{1}{4}$ "-28 $\frac{1}{2}$ "-48 $\frac{1}{4}$ " Length of Stroke 28 Revs. per minute 128 Dia. of Screw shaft 8 $\frac{1}{4}$ " as per rule 9 $\frac{1}{4}$ " Material of steel
Is the screw shaft fitted with a continuous liner the whole length of the stern tube No liner Is the after end of the liner made water tight
in the propeller boss — 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 — If two
liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 3'-6"

Dia. of Tunnel shaft 8 $\frac{1}{4}$ " as per rule 8 $\frac{1}{4}$ " Dia. of Crank shaft journals 8 $\frac{1}{4}$ " as per rule 8 $\frac{1}{4}$ " Dia. of Crank pin 9" Size of Crank webs 6 $\frac{1}{8}$ " Dia. of thrust shaft under
rs 9" Dia. of screw 10'-7" Pitch of Screw 12'-0" No. of Blades 4 State whether moveable No Total surface 34 sq. ft.

of Feed pumps 2 Diameter of ditto 3 $\frac{1}{8}$ " Stroke 13 $\frac{1}{2}$ " Can one be overhauled while the other is at work yes

of Bilge pumps 2 Diameter of ditto 3 $\frac{1}{8}$ " Stroke 13 $\frac{1}{2}$ " Can one be overhauled while the other is at work yes

of Donkey Engines one Sizes of Pumps 6"x4 $\frac{1}{2}$ "x6" No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room Three—2 $\frac{1}{2}$ " Bore also 2 $\frac{1}{2}$ " Bilge Injection In Holds, &c. One in aft peak 3". One in fwd. peak 3".
One in Chain Locker 2". One in fwd. store 2".

of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump C. Pump Is a separate Donkey Suction fitted in Engine room & size One 2 $\frac{1}{2}$ "

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

all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves

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

that pipes are carried through the bunkers Filling, Sampling & Air pipes to R.F.T. 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

the Screw Shaft Tunnel watertight No Tunnel Is it fitted with a watertight door — worked from —

VALVES, &c.—(Letter for record) Manufacturers of Steel Port Talbot

Total Heating Surface of Boilers 3384 sq. ft. Is Forced Draft fitted yes No. and Description of Boilers Two Chain Return Tubes.

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 Date of test 1-8-19 No. of Certificate 326

Can each boiler be worked separately yes Area of fire grate in each boiler 43.5 sq. ft. No. and Description of Safety Valves to

each boiler 2 Spring Loaded Area of each valve 7 sq. ins. Pressure to which they are adjusted 180 lbs. Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 12'-6" Length 11'-0" Material of shell plates steel

Thickness 1 $\frac{1}{32}$ " Range of tensile strength 28-32 Are the shell plates welded or flanged Flanged Descrip. of riveting: cir. seams D.R. Lap.

long. seams T.R. Double Butt Diameter of rivet holes in long. seams 1 $\frac{1}{16}$ " Pitch of rivets 7 $\frac{3}{8}$ " Lap of plates or width of butt straps 16"

Per centages of strength of longitudinal joint rivets 86.6 Working pressure of shell by rules 180.5 Size of manhole in shell 12"x16"

Size of compensating ring 26 $\frac{1}{2}$ "x30 $\frac{1}{2}$ " No. and Description of Furnaces in each boiler 3. Morrison Material steel Outside diameter 3'-3 $\frac{1}{4}$ "

Length of plain part top — Thickness of plates crown 1 $\frac{1}{2}$ " Description of longitudinal joint Welded No. of strengthening rings Corrugated

Working pressure of furnace by the rules 192.4 Combustion chamber plates: Material steel Thickness: Sides 2 $\frac{1}{32}$ " Back 2 $\frac{1}{32}$ " Top 2 $\frac{1}{32}$ " Bottom 3 $\frac{1}{4}$ "

Pitch of stays to ditto: Sides 9"x8" Back 9 $\frac{1}{8}$ "x8 $\frac{1}{8}$ " Top 8 $\frac{1}{4}$ "x8 $\frac{1}{2}$ " If stays are fitted with nuts or riveted heads No Working pressure by rules 198.1

Material of stays steel Area at smallest part 1.73 sq. ft. Area supported by each stay 74.14 sq. ft. Working pressure by rules 210 lbs. End plates in steam space:

Material steel Thickness 1 $\frac{1}{8}$ " Pitch of stays 18"x18" How are stays secured Bolted Working pressure by rules 185 lbs. Material of stays steel

Area at smallest part 6.33 sq. ft. Area supported by each stay 324 sq. ft. Working pressure by rules 203 Material of Front plates at bottom steel

Thickness 1 $\frac{1}{16}$ " Material of Lower back plate steel Thickness 3 $\frac{1}{32}$ " Greatest pitch of stays 14"x8 $\frac{1}{8}$ " Working pressure of plate by rules 187.8 lbs.

Diameter of tubes 2 $\frac{1}{2}$ " Pitch of tubes 3 $\frac{1}{4}$ "x3 $\frac{1}{8}$ " Material of tube plates steel Thickness: Front 1 $\frac{1}{16}$ " Back 2 $\frac{1}{32}$ " Mean pitch of stays 7 $\frac{3}{8}$ "

Pitch across wide water spaces 13 $\frac{1}{2}$ " Working pressures by rules 185 lbs. Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 7 $\frac{1}{2}$ "x8 $\frac{1}{2}$ " Length as per rule 30 $\frac{1}{8}$ " Distance apart 8 $\frac{1}{4}$ " Number and pitch of stays in each Two—8 $\frac{1}{2}$ "

Working pressure by rules 184 lbs. 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 — 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 —

006903-006911-0028

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded? —

SPARE GEAR. State the articles supplied:— 2 Conn^{ts} Rod Top End Bolts & Nuts: 2 Ditto. Bottom End Bolts & Nuts: 2 Main Bearing Bolts & Nuts: 6 Coupling Bolts: 2 Eng. Feed Pump Valves: 2 Eng. Bilge Pump Valves: 1 Set of packing rings & springs for each piston: 2 cut. assorted bolts & nuts: 12 Bars of rod steel $\frac{1}{2}$ " to 1": 12 Bars of flat iron (various): 1 pair of Top & 1 pair of Bottom End brasses: 1 pair of Main Bearing brasses: 1 pair of Ecc. Rod brasses: 1 pair of Drag rod brasses: 1 pair of Valve rod brasses: 1 pair of Valve guide brasses: 1 Ecc. Strap & 2 Bolts: 1 Ahd. & 1 Ast. Ecc rods: 1 H.P. & 1 P. Slide Rod: 1 L.P. Slide Rod: 1 Piston Rod: 2 Guide Shoes: 2 Safety Valve Springs & Escape Valve springs: 1 Air Pump rod & 6 Valves: 20 Condenser Tubes: 24 Odr. plain Tubes: 4 Odr. stay Tubes or other Spare Gear in accordance with the Specification.

The foregoing is a correct description,
For DAY SUMMERS & Co. Ltd.

Graham & L. Day.

Manufacturer.

Dates of Survey while building: During progress of work in shops: 14. 2. 8. 14. 23. 6. 14. 14. 30. 14. 27. 10. 10. 14. 18. 20. 17. 23. 1. 13. 13. 14. 15. 25. 26. 1. 9. 13. 21. 29. During erection on board vessel: 10. 18. 25. 10. 3. 4. 16. 28. 30. 13. 11. Total No. of visits: 39

Is the approved plan of main boiler forwarded herewith? —

" " " donkey " " " —

Dates of Examination of principal parts—Cylinders 18. 23. 13. Slides 14-5-19 Covers 14-5-19 Pistons 14-5-19 Rods 1-5-19

Connecting rods 1-5-19 Crank shaft 13-6-19 Thrust shaft 13-6-19 Tunnel shafts 13-6-19 Screw shaft 13-6-19 Propeller 13-6-19

Stern tube 13-6-19 Steam pipes tested 26. 18. 3. 4. 20. Engine and boiler seatings 21-8-19 Engines holding down bolts 25-9-19

Completion of pumping arrangements 13-11-19 Boilers fixed 20-10-19 Engines tried under steam 20-11-19

Completion of fitting sea connections 14-6-19 Stern tube 14-6-19 Screw shaft and propeller 14-6-19

Main boiler safety valves adjusted 30-10-19 Thickness of adjusting washers 7 and 14. 1/2" S. 1/2" S. 1/2" S. 1/2" S.

Material of Crank shaft Steel Identification Mark on Do. LLOYDS 28018 M.R. Material of Thrust shaft Steel Identification Mark on Do. LLOYDS 28018 M.R.

Material of Tunnel shafts Steel Identification Marks on Do. LLOYDS 13-6-19 J.M. Material of Screw shafts Steel Identification Marks on Do. LLOYDS 28018 M.R.

Material of Steam Pipes Steel & Copper Test pressure Copper 360 lb. Steel 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 S. Tug. "ST ARVANS"

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

The Machinery has been built under special survey during construction and erection on board, and in accordance with the terms of the specification.

The material and workmanship being sound and good. The trials proved satisfactory and in my opinion the machinery is eligible to have record of +L.M.C. 1.20.

The Spare Gear is in order with the rule requirements & the specification.

MARK ON FOR^W BOILER

N^o 326
LLOYD'S TEST
360 lb.
W.P. 180 lb.
J.M. 1-8-19

MARK ON AFT. BOILER

N^o 327
LLOYD'S TEST
360 lb.
W.P. 180 lb.
J.M. 2-8-19

It is submitted that
this vessel is eligible for
THE RECORD +L.M.C. 1.20.

The amount of Entry Fee ... £ : : When applied for. 20/11/20 from Lm
Special ... £ 64 : 16 0
Donkey Boiler Fee ... £ : : When received. 6/3/20 RBN
Travelling Expenses (if any) £ : : 8

For J. Marshall & Self
C. H. Boyle
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE JAN. 20. 1920

Assigned

+L.M.C. 1.20
F.D.



© 2021

Lloyd's Register
Foundation