

Rpt. 4.

REPORT ON MACHINERY.

No. 15517.

MON. JUL. 23. 1918

Standard "D" Type

Date of writing Report 29th June 1918 When handed in at Local Office

4/7/18 Port of West Hartlepool S.S. 23 July 1918

No. in Survey held at W. Hartlepool
Reg. Book.Date, First Survey 5th Feb/18 Last Survey 11th June 1918

(Number of Visits 79

Gross 236 2

Net 135 1

When built 1918

Master J. Davis

Built at Sunderland

By whom built S. P. Austin & Sons Ltd.

Engines made at W. Hartlepool

By whom made Central Marine Engine Works

when made 1918

Boilers made at S.S.

By whom made S.S.

when made 1918

Registered Horse Power

Owners The Shipping Controller
(Mac Andrew & Co.)

Port belonging to London

Nom. Horse Power as per Section 28 410

Is Refrigerating Machinery fitted for cargo purposes No.

Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines Triple Expansion

No. of Cylinders three (3) No. of Cranks 3

Dia. of Cylinders 25", 41", 68" Length of Stroke 45" Revs. per minute 74 Dia. of Screw shaft as per rule 13.57" Material of Screw shaft as fitted 14 1/2" (screw shaft) Scrap Iron

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 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 60"

Dia. of Tunnel shaft as per rule 12.41" Dia. of Crank shaft journals as per rule 13.04" Dia. of Crank pin 13 1/2" Size of Crank webs 20 3/4" x 8 3/4" Dia. of thrust shaft under collars 13 1/4" Dia. of screw 15.6" Pitch of Screw 17.0" No. of Blades 4 State whether moveable No Total surface 75 sq ft

No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes.

No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes.

No. of Donkey Engines three (3) Sizes of Pumps General Service 9 1/2" x 7" x 18" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3, 3"; in tunnel (well) one, 3" Ballast 10 1/2" x 12 1/2" x 2 1/2" In Holds, &c. forward 6, 3"; after 2, 3";

No. of Bilge Injections one sizes 8" Connected to condenser, or to circulating pump pumps Is a separate Donkey Suction fitted in Engine room & size Yes, 3"

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 Some, others, 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.

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 No. worked from Yes.

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel J. Spencer & Sons, Ltd.

Total Heating Surface of Boilers 5855 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Two (2), Single-ended.

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 6/5/18 No. of Certificate 3496

Can each boiler be worked separately Yes Area of fire grate in each boiler 75 sq ft No. and Description of Safety Valves to each boiler Two (2), Spring Area of each valve 12.56 sq in Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 31" Mean dia. of boilers 16.6" Length 11.8" Material of shell plates steel

Thickness 1 1/2" Range of tensile strength 28 3/4/33 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams dbb, lap

long. seams 3bb, dbb, straps Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 3/8" Lap of plates or width of butt straps 20 1/8"

Per centages of strength of longitudinal joint rivets 87.6 plate 85.4 Working pressure of shell by rules 190 lbs. Size of manhole in shell 16" x 12"

Size of compensating ring flanged No. and Description of Furnaces in each boiler 4, Deighton's Material steel Outside diameter 44 1/2"

Length of plain part top Thickness of plates crown 9/16" Description of longitudinal joint welded No. of strengthening rings Corrugated

Working pressure of furnace by the rules 194 lbs. Combustion chamber plates: Material steel Thickness: Sides 23/32" Back 3/4" Top 23/32" Bottom 23/32"

Pitch of stays to ditto: Sides 10 1/2" x 8 3/4" Back 10 1/2" x 9 1/2" Top 10 1/2" x 8 3/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 199 lbs.

Material of stays steel Area at smallest part 2.096 sq in Area supported by each stay 10 1/2" x 8 3/4" Working pressure by rules 212 lbs. End plates in steam space:

Material steel Thickness 1 7/8" Pitch of stays 24" x 22 1/2" How are stays secured 4 dbb nuts Working pressure by rules 181 lbs. Material of stays steel

Area at smallest part 9.82 sq in Area supported by each stay 24" x 22 1/2" Working pressure by rules 194 lbs. Material of Front plates at bottom steel

Thickness 1" Material of Lower back plate steel Thickness 7/8" Greatest pitch of stays 13 3/4" x 9 1/2" Working pressure of plate by rules 194 lbs.

Diameter of tubes 2 3/4" Pitch of tubes 4" x 3 3/8" Material of tube plates steel Thickness: Front 1" Back 3/4" Mean pitch of stays 10" x 7 3/4"

Pitch across wide water spaces 13 3/4" Working pressures by rules 189 lbs. Girders to Chamber tops: Material steel Depth and

thickness of girders at centre 10" x 1 3/4" Length as per rule 35 1/2" Distance apart 10 1/2" Number and pitch of stays in each 3,

Working pressure by rules 194 lbs. Steam dome: description of joint to shell % 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

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

Date of Test Pressure to which each is adjusted Is Easing Gear fitted

Diameter of Safety Valve

IS A DONKEY BOILER FITTED? No.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 connecting rod top and 2 bottom end bolts & nuts; 2 main bearing bolts & nuts; 3 crank shaft & 3 tunnel shaft bolts & nuts; one section & one discharge valve for feed pump, also for bilge pump; 2 main & 2 donkey feed check valves; 6 cylinder cover & 6 steam chest cover studs & nuts; 12 piston pin & ring studs & nuts; one c.i. propeller; 50 capped ferrules; one spring for feed pump escape valve; one set of air pump valves; 6 studs of each size fitted to boiler mountings; 50 fire bars & 8 wing fire bars; 2 rings packing for each piston rod, also for each valve rod; 90 condenser tube packings; 2 boiler safety valve springs; one bronze disc for main engine stop valve; assorted bolts & nuts, rivets, iron bars & split pins; some spare parts for circulating pump engine, fan engine, steam reboiler & evaporator; one filter bucket; 50 lbs. coir fibre for filter.

The foregoing is a correct description,
FOR THE CENTRAL MARINE ENGINE WORKS,
(101, Gt. St. St. S.W.)

John B. Williams J.B.W.

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1918. Feb 5. 6. 7. 8. 11. 12. 13. 15. 18. 19. 20. 21. 22. 25. 26. 27. 28. Mar 1. 4. 5. 6. 7. 8.
During erection on board vessel -- 11. 12. 13. 18. 19. 20. 21. 22. 25. 26. 27. Apr 4. 5. 8. 9. 11. 12. 17. 18. 19. 23. 24. 25. 26. 29. 30.
Total No. of visits May 1. 2. 3. 6. 7. 9. 14. 15. 22. 23. 24. 30. June 3. 4. 5. 6. 7. 10. 11. 12. 13. 14.

Is the approved plan of main boiler forwarded herewith

Sl. May 29 Jul 8. 12. 18. 19. 22. 23. (7)

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 17/4/18 Slides 25/4/18 Covers 10/6/18 Pistons 29/4/18 Rods 26/3/18
Connecting rods 27/3/18 Crank shaft 11/3/18 Thrust shaft 8/4/18 Tunnel shafts 22/5/18 Screw shaft 3/5/18 Propeller 4/6/18
Stern tube 24/5/18 Steam pipes tested 15/5/18 Engine and boiler seatings 3/6/18 Engines holding down bolts 7/6/18
Completion of pumping arrangements 11/6/18 Boilers fixed 10/6/18 Engines tried under steam 13/6/18
Completion of fitting sea connections 29.5.18. Stern tube 4.6.18 Screw shaft and propeller 4.6.18
Main boiler safety valves adjusted 13/6/18 Thickness of adjusting washers Port boiler, — P. valve 5/16" S. valve 3/8"
Material of Crank shaft Hot Steel Identification Mark on Do. 5987 Material of Thrust shaft Hot Steel Identification Mark on Do. 5987
Material of Tunnel shafts Scrap Iron Identification Marks on Do. 5987 Material of Screw shafts Scrap Iron Identification Marks on Do. 5987
Material of Steam Pipes Steel, lap-welded Test pressure 600 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 If so, state name of vessel

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

Evaporator fitted on board — coils of same having been tested to 400 lbs. & body to 50 lbs. water pressure.

The workmanship is good. The Engines & Boilers of this vessel have been constructed under Special Survey & fitted on board in accordance with the requirements of the Society's Rules. And are now, in our opinion, in safe working condition.

The case is respectfully submitted for the record of LMC 7.18 in the Register Book.
FD

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 7.18
F. D.

9/8/18

The amount of Entry Fee ... £ : : When applied for,
Special ... £ : : 26. 7. 1918
Donkey Boiler Fee ... £ 52 : 9 : 9 When received,
Travelling Expenses (if any) £ : : 13. 8. 1918

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

TUE 13 AUG 1918

+ LMC 7.18

F. D.



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Foundation