

REPORT ON MACHINERY

MON. 25 NOV. 1918 No. 1419

Received at London Office

NEWCASTLE-ON-TYNE

Date of writing Report 7th Nov. 1918 When handed in at Local Office 10 Port of NEWCASTLE-ON-TYNE

Survey held at Newcastle Date, First Survey 20th Mar 1918 Last Survey 8th Nov. 1918

on the S.S. "Wae Citadel" (Number of Vents 7) Tons { Gross 5684 Net 3563

Built at Newcastle By whom built Hoithumbell and S. B. Co When built 1918

Engines made at Newcastle By whom made H. E. Marine Eng Co 2351 when made 1918

Boilers made at do By whom made do when made 1918

Registered Horse Power 619 Owners The Shipping Controller Port belonging to London

Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Engines, &c. — Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 27"-45"-75" Length of Stroke 54 Revs. per minute 79 Dia. of Screw shaft 15.21 Material of 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 yes

Is 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 yes

Between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes If two yes

When liners are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 5'-6"

Dia. of Tunnel shaft 13.96 Dia. of Crank shaft journals 14.66 Dia. of Crank pin 14.7 Size of Crank webs 30.2 x 9.5 Dia. of thrust shaft under 14.7

Collars 14.7 Dia. of screw 17'-9" Pitch of Screw 16'-9" No. of Blades 4 State whether moveable no Total surface 93.6

No. of Feed pumps 2 (Weir's) Diameter of ditto 12 x 9 Stroke 21 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 4.5 Stroke 30 Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps 10.5 x 14 x 24, 9.5 x 7 x 18 No. and size of Suctions connected to both Bilge and Donkey pumps 2

In Engine Room Yes 3.5 In Holds, &c. No. 1 hold 2-3.5, No. 2 hold 2-3.5

Cross Bunker 2-3.5, No. 3 hold 2-3.5, No. 4 hold 2-3.5, Tunnel Well 1-2.5

No. of Bilge Injections 2 sizes 11 Connected to condenser or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 3.5

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 yes Are they Valves or Cocks Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stowage 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

What pipes are carried through the bunkers Hold 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

Dates of examination of completion of fitting of Sea Connections 16.9.18 of Stern Tube 16.9.18 Screw shaft and Propeller 23.10.18

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 John Spence & Sons

Total Heating Surface of Boilers 9525.6 Is Forced Draft fitted yes No. and Description of Boilers Three, single-ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Dates of test 1-10.9.18, 1-16.9.18, 1-20.9.18 No. of Certificates 1-9147, 1-9149, 1-9151

Can each boiler be worked separately yes Area of fire grate in each boiler 73.4 No. and Description of Safety Valves to yes

each boiler Two spring Area of each valve 12.56 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers 2'-6" Mean dia. of boilers 16'-0" Length 12'-5.32 Material of shell plates Steel

Thickness 1.56 Range of tensile strength 29.3 - 33 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams Lap

long. seams H.S. Y. Riv Diameter of rivet holes in long. seams 1.37 Pitch of rivets 9.5 Lap of plates or width of butt straps 20.7

Per centages of strength of longitudinal joint rivets 88.6 Working pressure of shell by rules 191 lbs Size of manhole in shell 16 x 12

Size of compensating ring Flanged No. and Description of Furnaces in each boiler 4 - sightless Material Steel Outside diameter 43"

Length of plain part top 17" Thickness of plates bottom 32 Description of longitudinal joint Welded No. of strengthening rings yes

Working pressure of furnace by the rules 190 lbs Combustion chamber plates: Material Steel Thickness: Sides 23/32 Back 3/4 Top 23/32 Bottom 7/8

Pitch of stays to ditto: Sides 10.1/8 x 8.3/4 Back 10.1/8 x 9.1/8 Top 10.1/8 x 9.3/4 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 198 lbs

Material of stays Steel Diameter at smallest part 2.03 Area supported by each stay 88.59 Working pressure by rules 206 lbs End plates in steam space: yes

Material Steel Thickness 1.76 Pitch of stays 23.2 x 22.2 How are stays secured in & lb Working pressure by rules 185 lbs Material of stays Steel

Diameter at smallest part 9.62 Area supported by each stay 528 Working pressure by rules 189 lbs Material of Front plates at bottom Steel

Thickness 31/32 Material of Lower back plate Steel Thickness 2.7 Greatest pitch of stays 13.5/8 Working pressure of plate by rules 187 lbs

Diameter of tubes 2.5 Pitch of tubes 3.3/4 x 3.5/8 Material of tube plates Steel Thickness: Front 31/32 Back 3/4 Mean pitch of stays 9.1/4

Pitch across wide water spaces 13.5/8 Working pressures by rules 181 lbs Girders to Chamber tops: Material Steel Depth, and yes

thickness of girder at centre 10.5 x 1.3/4 Length as per rule 36.2 Distance apart 10.1/8 Number and pitch of stays in each 3 - 8.3/4

Working pressure by rules 200 lbs Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked yes

separately yes Diameter yes Length yes Thickness of shell plates yes Material yes Description of longitudinal joint yes Diam. of rivet yes

holes yes Pitch of rivets yes Working pressure of shell by rules yes Diameter of flue yes Material of flue plates yes Thickness yes

If stiffened with rings yes Distance between rings yes Working pressure by rules yes End plates: Thickness yes How stayed yes

Working pressure of end plates yes Area of safety valves to superheater yes Are they fitted with easing gear yes

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two top end, two bottom end & two main bearing bolts & nuts a set of coupling bolts, a set of feed & bilge pump valves a quantity of assorted bolts nuts & iron.

The foregoing is a correct description,

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LD.

J. Harrison Manufacturer.

Dates of Survey while building { During progress of work in shops -- Mar 20. Apr 29. May 1. 7. 8. 10. 13. 14. 15. 16. 17. 21. 22. 23. 24. 27. 28. 30. 31. Jun 7. 13. 18. 19. 20. 21. July 1. 3. 8. 10. 15. 16.
During erection on board vessel -- 7. 19. 22. 23. 24. Aug 1. 6. 8. 12. 15. 21. 22. 26. 28. 30. Sept 2. 3. 5. 6. 9. 10. 12. 13. 16. 19. 20. 22. Oct 1. 2. 9. 23. Nov 5. 6. 8.
Total No. of visits 67 Is the approved plan of main boiler forwarded herewith Yes
" " " donkey " " " Yes

Dates of Examination of principal parts—Cylinders 21. 9. 18 Slides 23. 9. 18 Covers 6. 9. 18 Pistons 6. 8. 18 Rods 1. 8. 18
Connecting rods 22. 9. 18 Crank shaft 24. 7. 18 Thrust shaft 21. 6. 18 Tunnel shafts 20. 6. 18 Screw shaft 21. 8. 18 Propeller 13. 9. 18
Stern tube 12. 8. 18 Steam pipes tested 6. 11. 18 Engine and boiler seatings 5. 11. 18 Engines holding down bolts 6. 11. 18
Completion of pumping arrangements 7. 11. 18 Boilers fixed 6. 11. 18 Engines tried under steam 7. 11. 18
Main boiler safety valves adjusted 7. 11. 18 Thickness of adjusting washers PB. P₂ 3/8", CB. P₇ 1/2", SB. P₇ 1/2"
Material of Crank shaft Steel Identification Mark on Do. L. X. 7-18 Material of Thrust shaft Steel Identification Mark on Do. L. X. 6-18
Material of Tunnel shafts Steel Identification Marks on Do. L. X. 6-18 Material of Screw shafts Steel Identification Marks on Do. L. X. 8-18
Material of Steam Pipes Iron Test pressure 540 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 Yes If so, state name of vessel S. S. Wal Castle

General Remarks (State quality of workmanship, opinions as to class, &c. The engines & boiler of this vessel have been constructed under special survey & the materials & workmanship are found to be good. The engines have been tried under steam & the boiler safety valves adjusted at the working pressure.

The machinery is now in good & safe working condition & eligible in my opinion to have the notation of + LMC 11-18

A report on the electric installation will be forwarded when received from the Electricians.

The vessel is fitted for carrying oil fuel in the double bottom FP above 150°F. in accordance with the requirements for standard vessels.

It is submitted that this vessel is eligible for THE RECORD + LMC 11-18 F.D.

J.W.D. 75/11/18. G.P.H.

Thomas Field Engineer & Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee ... £ : : When applied for, 12 NOV 1918
Special ... £ 126. 6. : :
Donkey Boiler Fee ... £ : : When received, 18. 12. 18
Travelling Expenses (if any) £ : : 19/12/18

Committee's Minute TUE NOV 26 1918
Assigned + LMC 11.18

