

Rpt. 4.

## REPORT ON MACHINERY.

No. 71360

AT. OCT. 26. 1918

Received at London Office

Date of writing Report 1<sup>st</sup> Oct 1918 When handed in at Local Office

Port of

NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle  
Reg. Book.Date, First Survey 18<sup>th</sup> Dec 1917 Last Survey 18<sup>th</sup> Oct 1918

(Number of Visits 48)

on the S.S. "Wal Combe"

Tons { Gross 3090  
Net 1852

Master Built at Newcastle By whom built J. &amp; H. S. B. Co 214 When built 1918

Engines made at Newcastle By whom made N. E. Marine Eng Co 2358 when made 1918

Boilers made at Do By whom made Do 2325 when made 1918

Registered Horse Power Owners The Shipping Controller Port belonging to London

Nom. Horse Power as per Section 28 430 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 25" - 41" - 68" Length of Stroke 45" Revs. per minute 80 Dia. of Screw shaft as per rule 13.57" Material of screw shaft as fitted 14.2" Material of screw shaft Hon  
 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 5'-0"  
 Dia. of Tunnel shaft as per rule 12.41" Dia. of Crank shaft journals as per rule 13.03" Dia. of Crank pin 13.4" Size of Crank webs 21" x 8.76" Dia. of thrust shaft under  
 collars 13.4" Dia. of screw 16'-0" Pitch of Screw 16'-3" No. of Blades 4 State whether moveable No Total surface 80 ft  
 No. of Feed pumps 2 Diameter of ditto 3.2" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 3.2" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 3 Sizes of Pumps 1-10.2" x 12.2" x 21", 2-9.2" x 7" x 18" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 4 1/2" 3" In Holds, &c. No. 1 hold 2-3", No. 2 hold 2-3",  
 No. 3 hold 2-3", No. 4 hold 2-3", No. 5 hold 2-2.2" x Hold well 1-3.2", Tunnel Well 1-2.2"  
 No. of Bilge Injections 2 sizes 8" Connected to condenser or to circulating pump Yes 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 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  
 What pipes are carried through the bunkers 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  
 Dates of examination of completion of fitting of Sea Connections 5-9-18 of Stern Tube 5-9-18 Screw shaft and Propeller 17-9-18  
 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 6324 ft Is Forced Draft fitted Yes No. and Description of Boilers Three, single-ended  
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of tests 2-8-8-18 Nos of Certificates 2-9129  
 1-12-8-18  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 51.7 ft No. and Description of Safety Valves to  
 each boiler Two, spring Area of each valve 8.29 sq 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 16" Mean dia. of boilers 13'-9.34" Length 11'-8.76" Material of shell plates Steel  
 Thickness 1.5" Range of tensile strength 28.4-33 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 8. Lap  
 long. seams BBS. 2 Rivet Diameter of rivet holes in long. seams 1.375" Pitch of rivets 8.25" Lap of plates or width of butt straps 18"  
 Per centages of strength of longitudinal joint rivets 86.1 plate 86 Working pressure of shell by rules 187 lbs Size of manhole in shell 16" x 12"  
 Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3- Brighton's Material Steel Outside diameter 43"  
 Length of plain part top 17" bottom 32" Thickness of plates crown 17" bottom 32" Description of longitudinal joint Welded No. of strengthening rings 1  
 Working pressure of furnace by the rules 190 lbs Combustion chamber plates: Material Steel Thickness: Sides 4.6" Back 3.4" Top 1.6" Bottom 1.6"  
 Pitch of stays to ditto: Sides 9.375 x 9" Back 10.25 x 9" Top 9.375 x 9" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 193 lbs  
 Material of stays Steel Diameter at smallest part 2.03" Area supported by each stay 84.3 sq Working pressure by rules 216 lbs End plates in steam space:  
 Material Steel Thickness 1.52" Pitch of stays 23.34 x 19.2 How are stays secured In & W. Working pressure by rules 181 lbs Material of stays Steel  
 Diameter at smallest part 8.29" Area supported by each stay 46.3 sq Working pressure by rules 186 lbs Material of Front plates at bottom Steel  
 Thickness 3.1/32" Material of Lower back plate Steel Thickness 2.7/32" Greatest pitch of stays 13.25 x 9 Working pressure of plate by rules 180 lbs  
 Diameter of tubes 2.25" Pitch of tubes 4" x 4" Material of tube plates Steel Thickness: Front 3.1/32" Back 3.4" Mean pitch of stays 10"  
 Pitch across wide water spaces 13.25 Working pressures by rules 184 lbs Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 10.25 x 1.25 Length as per rule 35.25 Distance apart 9.75 Number and pitch of stays in each 3-9"  
 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  
 separately Yes Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet  
 holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness  
 If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed  
 Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear



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, six feed check valves, twelve junking studs & a propeller.*

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 -- *1917. Dec. 18. 1918. Jan. 16. May 14. 15. 16. 21. 22. 23. 28. 30. 31. Jun. 3. 5. 7. 18. July 1. 15. 19. 23. 24. 30. Aug. 1. 2. 3. 12. 13. 16. 21. 22.*  
During erection on board vessel -- *26. 28. 29. 30. Sep. 3. 5. 10. 11. 12. 14. 19. 28. 29. Oct. 1. 4. 7. 8. 14. 18.*  
Total No. of visits *48.*

Is the approved plan of main boiler forwarded herewith *no*

" " " donkey " " " ☒

Dates of Examination of principal parts—Cylinders *26. 8. 18* Slides *5. 9. 18* Covers *3. 9. 18* Pistons *22. 8. 18* Rods *19. 7. 18*  
Connecting rods *19. 7. 18* Crank shaft *13. 8. 18* Thrust shaft *3. 6. 18* Tunnel shafts *18. 6. 18* Screw shaft *18. 6. 18* Propeller *12. 8. 18*  
Stern tube *30. 5. 18* Steam pipes tested *25. 9. 18* Engine and boiler seatings *5. 9. 18* Engines holding down bolts *19. 9. 18*  
Completion of pumping arrangements *1. 10. 18* Boilers fixed *19. 9. 18* Engines tried under steam *1. 10. 18*  
Main boiler safety valves adjusted *1. 10. 18* Thickness of adjusting washers *P.B.  $P \frac{15}{32} S \frac{7}{16}$  C.B.  $P \frac{7}{16} S \frac{13}{32}$  S.B.  $P \frac{13}{32} S \frac{15}{32}$*   
Material of Crank shaft *Steel* Identification Mark on Do. *J.H. 8-18* Material of Thrust shaft *Steel* Identification Mark on Do. *J.H. 6-18*  
Material of Tunnel shafts *Iron* Identification Marks on Do. *J.H. 6-18* Material of Screw shafts *Iron* Identification Marks on Do. *J.H. 6-18*  
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 *Standard C.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines and boilers of this vessel have been constructed under special survey & the materials & workmanship are found to be good. The engines have been tried under steam and the boiler safety valves adjusted at the working pressure. The machinery is now in good order & safe working condition & eligible in my opinion to have the notation of +LMC 10-18. A report on the electric installation will be forwarded when received from the Electricians.*

*It is submitted that this vessel is eligible for THE RECORD. + LMC 10, 18 F.D.*

*J.H. 29-10-18*  
*M.R.*

The amount of Entry Fee ... £ : :  
Special ... £ *68* : *13* : *4*  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, *24 OCT 1918*  
When received, *14/11/18*

Committee's Minute

Assigned

*+ LMC 10-18*  
*J.D.*

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



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