

REPORT ON MACHINERY.

No. 71035

Received at London Office. TUE JUN 10 1918

Date of writing Report 28th March 1918 When handed in at Local Office 1.6.18 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle Date, First Survey 22nd Jan 1917 Last Survey 28th May 1918 Reg. Book.

on the S.S. "Wal Breeze" Master Built at Blyth By whom built Blyth S.B. & S. Co. When built 1918

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

Boilers made at Newcastle By whom made Newcastle when made 1918

Registered Horse Power Owners The Shipping Controller Port belonging to London

Nom. Horse Power as per Section 28 417 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 13.4" 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 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 12.4" Dia. of Crank shaft journals 13.03" Dia. of Crank pin 13.4" Size of Crank webs 27 1/2" 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 3 Sizes of Pumps 10 1/2" x 12 1/2" x 21", 9 1/2" x 7 1/2" x 18", 9 1/2" x 7 1/2" x 18" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three 3" In Holds, &c. Forward & after main holds each 3"

After hold each 1-3" Tunnel well 1-2 1/2"

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 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 stowhold 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 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

Dates of examination of completion of fitting of Sea Connections 27.2.18 of Stern Tube 27.2.18 Screw shaft and Propeller 5.3.18

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

BOILERS, &c.—(Letter for record S) Manufacturers of Steel John Spence & Sons

Total Heating Surface of Boilers 6022 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Two, single-ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 1-26.2.18 Nos of Certificates 905-8

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, 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 and bunkers 14" Mean dia. of boilers 16'-3 5/16" Length 11'-9" 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 8 Lap

long. seams JBS & Riv 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 Working pressure of shell by rules 192 lbs Size of manhole in shell 16" x 12"

Size of compensating ring Flanged No. and Description of Furnaces in each boiler 4-Heightened Material Steel Outside diameter 44 1/2"

Length of plain part top 9" Thickness of plates crown 7/16" Description of longitudinal joint Welded No. of strengthening rings

Working pressure of furnace by the rules 198 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 1/4" 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 Diameter at smallest part 2.03" Area supported by each stay 88.7 sq in Working pressure by rules 206 lbs End plates in steam space:

Material Steel Thickness 1 1/4" Pitch of stays 24" x 22 1/2" How are stays secured In W Working pressure by rules 181 lbs Material of stays Steel

Diameter at smallest part 9.62" Area supported by each stay 54.0 sq in Working pressure by rules 185 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" Working pressure of plate by rules 194 lbs



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 & a propeller.*

The foregoing is a correct description,

FOR THE NORTH-EASTERN MARINE ENGINEERING CO. LD.

*S. J. Harrison*

Manufacturer.

Dates of Survey while building  
During progress of work in shops -- 1917 July 18-26-27-28 Aug 2-9-14-27 Sept 4-21 Oct 3-5  
During erection on board vessel -- 15-19-22-25-26-30 Nov 2-8-15-16-19-27-30 Dec 12-14-18-20-27 1918 Jan 3-7-9-10-11-14-16-18-21-22  
Total No. of visits 66

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

" " " " " " " " " " " "

Dates of Examination of principal parts—Cylinders 8-11-17 Slides 30-11-17 Covers 20-12-17 Pistons 18-12-17 Rods 22-6-17  
Connecting rods 20-2-18 Crank shaft 30-11-17 Thrust shaft 10-10-17 Tunnel shafts 23-11-17 Screw shaft 19-11-17 Propeller 16-10-17  
Stern tube 10-1-18 Steam pipes tested 19-3-18 Engine and boiler seatings 13-3-18 Engines holding down bolts 25-3-18  
Completion of pumping arrangements 26-3-18 Boilers fixed 25-3-18 Engines tried under steam 26-3-18  
Main boiler safety valves adjusted 26-3-18 Thickness of adjusting washers P.B. P.  $\frac{3}{32}$  S.  $\frac{7}{16}$  S.B. P.  $\frac{11}{32}$  S.  $\frac{1}{4}$   
Material of Crank shaft *Steel* Identification Mark on Do. *J.H.* 11-17 Material of Thrust shaft *Steel* Identification Mark on Do. *J.H.* 10-17  
Material of Tunnel shafts *Iron* Identification Marks on Do. *J.H.* 11-17 Material of Screw shafts *Iron* Identification Marks on Do. *J.H.* 11-17  
Material of Steam Pipes *Iron* Test pressure 54 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. *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 5-18. A report on the electric installation will be forwarded when received from the Electrician herewith.*

It is submitted that  
this vessel is eligible for  
THE RECORD + LMC 5.18. F.D.

*J.W.D.*  
18/6/18 *J.M.*

The amount of Entry Fee ... £ : :  
Special ... £ 51 : 2 : 8  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 1 JUN 1918  
When received, 24 JUN 1918

Committee's Minute FRI. 21 JUN 1918

Assigned

*+ LMC 5.18 J.D.*

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



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Foundation