

Received at London Office

WED 22 OCT 1913

of writing Report *14th Oct. 1919* When handed in at Local Office *21/10/19* Port of *West Hartlepool*
in Survey held at *West Hartlepool* Date, First Survey *12th Oct. 1918* Last Survey *10th Oct. 1919*
Book. on the *steel screw steamer "Daybreak"* (Number of Vials *83*) (Gross *3102*)

Master	Built at	Blyth	By whom built	The Blyth S.S. Co. Ld. (2102)	When built	1880
Engines made at	Hartlepool	By whom made	Richardsons, Middlesbrough & Co. Ld. (2602)	when made	1919	
Boilers made at	Hartlepool	By whom made	Richardsons, Middlesbrough & Co. Ld.	when made	1919	
Registered Horse Power		Owners	Claymore S.S. Co. Ld.	Port belonging to	Cardiff	
Net Horse Power as per Section 28	368	Is Refrigerating Machinery fitted for cargo purposes	no	Is Electric Light fitted	yes	

GINES, &c.—Description of Engines Rifle Expansion No. of Cylinders Three No. of Cranks Three
a. of Cylinders 25-41-68 Length of Stroke 45 Revs. per minute 65 Dia. of Screw shaft as per rule 13.58 Material of Iron
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
the propeller boss Yes 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 Yes If two
are fitted, is the shaft lapped or protected between the liners — Length of stern bush 5-0
of Tunnel shaft as per rule 12.42 Dia. of Crank shaft journals as per rule 13.04 Dia. of Crank pin 13.4 Size of Crank webs 8 1/2 x 20 1/2 Dia. of thrust shaft under
tree 13 1/4 Dia. of screw 16-0 Pitch of Screw 16-3 No. of Blades four State whether moveable no Total surface 45 ft.
of Feed pumps Two Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work Yes
of Bilge pumps Two Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work Yes
of Donkey Engines Two Sizes of Pumps (Main Feed) 4 x 18 in. 3 Weirs 8 x 10 x 18 in. 4 3/6
Engine Room Two Port 3 dia, No. 3, attached Two 3, tunnel with one 3 1/2 In Holds, &c. No 1 Hold Two 3, No 2 Hold four 3 After Main Hold Two 3
connected Hold two 2 1/2
of Bilge Injections one size 11 Connected to condenser, or to circulating pump — Is a separate Donkey Suction fitted in Engine room & size Two 3 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 none
all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both
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
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
pipes are carried through the bunkers none How are they protected —
all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes
of examination of completion of fitting of Sea Connections 9-9-19 of Stern Tube 18/9/19 Screw shaft and Propeller 18/9/19
Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from the bottom

ERS, & Co. — (Letter for record 5) Manufacturers of Steel & Ironwork, & Brighton & Chichester. Ld.

Heating Surface of Boilers 6090 $\frac{1}{2}$ Is Forced Draft fitted No. and Description of Boilers 3 Single Ended Lye. Mult.

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 28/6/19 No. of Certificate 3534

Can each boiler be worked separately Yes. Area of fire grate in each boiler 51.7 $\frac{1}{2}$ No. and Description of Safety Valves to each boiler Two, direct opening Area of each valve 5.94 $\frac{1}{2}$ Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes.

Least distance between boilers or uptakes and bunkers or woodwork 6 ft. 0 in Mean dia. of boilers 14-0 Length 11-6 Material of shell plates steel

Range of tensile strength 28 $\frac{1}{2}$ to 33 $\frac{1}{2}$ Are the shell plates welded or flanged no Descrip. of riveting: cir. seams Lap & R

Seams 5135-TR Diameter of rivet holes in long. seams 1 $\frac{3}{8}$ Pitch of rivets 8 $\frac{1}{2}$ Lap of plates or width of butt straps 18

Enlarges of strength of longitudinal joint rivets 86.2 $\frac{1}{2}$ Working pressure of shell by rules 185 lbs Size of manholes in shell 16 x 12

Compensating ring flanged No. and Description of Furnaces in each boiler 3 Brighton Material steel Outside diameter 43

Th of plain part top — bottom — Thickness of plates crown 3 $\frac{1}{4}$ Description of longitudinal joint Weld No. of strengthening rings — bottom 3 $\frac{1}{2}$

Working pressure of furnace by the rules 190 $\frac{1}{2}$ Combustion chamber plates: Material steel Thickness: Sides $\frac{1}{8}$ Back $\frac{3}{4}$ Top $\frac{1}{8}$ Bottom $\frac{1}{8}$

Stays to ditto: Sides 9 x 9 $\frac{3}{8}$ Back 10 $\frac{1}{2}$ x 9 Top 9 x 9 $\frac{3}{8}$ If stays are fitted with nuts or riveted heads nuts Working pressure by rules 198 $\frac{1}{2}$

Material of stays steel Diameter at smallest part 2.07 $\frac{1}{2}$ Area supported by each stay 9 $\frac{3}{8}$ x 9 Working pressure by rules 221 $\frac{1}{2}$ End plates in steam space

Material steel Thickness 1 $\frac{1}{2}$ Pitch of stays 23 $\frac{3}{4}$ x 19 $\frac{1}{2}$ How are stays secured 5 x 14 Working pressure by rules 181 $\frac{1}{2}$ Material of stays steel

Material at smallest part 8.48 Area supported by each stay 23 $\frac{3}{4}$ x 19 $\frac{1}{2}$ Working pressure by rules 190 $\frac{1}{2}$ Material of Front plates at bottom steel

Material of Lower back plate steel Thickness 2 $\frac{1}{2}$ Greatest pitch of stays 13 $\frac{1}{2}$ x 9 Working pressure of plate by rules 187 $\frac{1}{2}$

Material of tubes 3 $\frac{1}{4}$ Pitch of tubes 4 $\frac{1}{2}$ x 4 $\frac{3}{8}$ Material of tube plates steel Thickness: Front 3 $\frac{1}{2}$ Back 3 $\frac{1}{4}$ Mean pitch of stays 10

Working pressures by rules 185 lbs Girders to Chamber tops: Material steel Depth and

Distance of girder at centre 10 $\frac{1}{2}$ x 1 $\frac{1}{2}$ Length as per rule 55 $\frac{1}{2}$ Distance apart 9 $\frac{3}{8}$ Number and pitch of stays in each three 9

Working pressure by rules 199 $\frac{1}{2}$ Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

Material — Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivets —

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

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?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:-

1 Solid Cast Iron propeller 1 1/2 piston valves 20 Top and 2 Bottom
2 main bearings & 6 shaft coupling bolts and nuts 1 set of air pump valves 1 suction & 1 delivery
for fuel pumps 1 suction & 1 delivery valve for bilge pumps 3 main & 3 auxiliary fuel check valves
2 boiler safety valves & 1 fuel pump escape valve spring 10 Condenser tubes 50 capped furules & 90 packing rings
same 50 bolts & nuts assorted, a quantity of assorted iron bars, also washers, rivets & split pins 10 P. boiler
1 tube expander 12 tube stoppers 1 salinometer & 1 jet. Full set of apparatus. Complete set of spare gear for Centrifugal pump
Complete set of spare gear for Oil Fuel burning apparatus.

The foregoing is a correct description.

For RICHARDSONS, WESTGARTH & Co. LIMITED

J. S. Mungate

ASSISTANT GENERAL MANAGER

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1915. Oct 12. 18. 23. 24. 28. Nov 18. 25. 26. Dec 6. 12. 16. 22. 1919. Jan 8. 9. 12. 15. 29. Feb 3. 20. 21. Mar 3. 4.
During erection on board vessel -- 17. 18. 19. 26. Apr 1. 2. 8. 10. 14. 15. 25. 28. 29. 30. May 2. 3. 7. 9. 12. 14. 15. 16. 19. 21. 26. 29. 31. June 6. 7. 16.
Total No. of visits 83. At Newcastle - 1919. Aug 14. Sep 5. 9. Dec 9. 11. 15. 16. 22. 29. 1920. Jan 6. 7. 9. = 12.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts - Cylinders 18/10/19 to 25/10/19 Slides 18/10/19 to 25/10/19 Covers 24/10/19 Pistons 21/10/19 to 24/10/19 Rods 21/10/19 to 24/10/19
Connecting rods 18/10/19 to 18/10/19 Crank shaft 9/10/19 to 24/10/19 Thrust shaft 18/10/19 to 22/10/19 Tunnel shafts 18/10/19 to 19/10/19 Screw shaft 24/10/19 to 24/10/19 Propeller 24/10/19
Stern tube 1/9/19 Steam pipes tested 25/10/19 to 6/10/19 Engine and boiler seatings 23/9/19 Engines holding down bolts 21/9/19
Completion of pumping arrangements 10/10/19 Boilers fixed 1/10/19 Engines tried under steam 10/10/19
Main boiler safety valves adjusted 10/10/19 Thickness of adjusting washers 5/16 3/2 1/4 1/2 1/2 1/2 1/2 1/2
Material of Crank shaft steel Identification Mark on Do. 6086 Material of Thrust shaft steel Identification Mark on Do. 607
Material of Tunnel shafts iron Identification Marks on Do. 6077 Material of Screw shafts iron Identification Marks on Do. 607
Material of Steam Pipes Lapped steel 5 1/2 x 3/4 x 1/4 inch Test pressure 540 lbs 3/4 inch 1000 lbs 1000 lbs
Is an installation fitted for burning oil fuel yes Is the flash point of the oil to be used over 150°F. 175
Have the requirements of Section 49 of the Rules been complied with yes
Is this machinery duplicate of a previous case yes If so, state name of vessel 1/2 HAZELSIDE Plym. No. 208

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

The Engines & Boilers & auxiliary Machinery of this vessel have been built under special survey, the material & workmanship are sound & good. The Boilers & steam pipes have been tested by Hydraulic pressure in accordance with the Rules. The whole of the machinery works satisfactorily at the morning & the safety valves of the main Boiler have been adjusted to their working pressure & Engine fitted, rendering this vessel eligible to have the notation in the Register Book * LMC 1/19 180th when the survey is complete.

This vessel has now returned to the Plym. O.D. to complete. The vessel has now been fitted for burning oil fuel, and is eligible to have the notation of * LMC 1/20 fitted for burning oil fuel F.P. above 150°F.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 1/20.

FITTED FOR OIL FUEL 1/20 F.P. ABOVE 150°F

The amount of Entry Fee ... £

When applied for,

Special Special oil fuel conversion ... £ 63.10

Donkey Boiler Fee ... £ 15

Travelling Expenses (if any) £

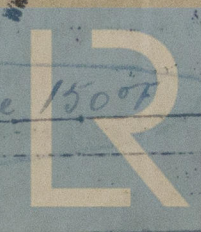
Committee's Minute

Assigned

+ L.M.C. 1/20

Fitted for Oil Fuel 1/20 F.P. above 150°F

Engineer Surveyor to Lloyd's Register of British & Foreign Ships Expenses (if



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