

Rpt. 4.

# REPORT ON MACHINERY

No. 3847/8

Received at London

WED. 4-JUN. 1919

Date of writing Report 26.5.1919 When handed in at Local Office 30/5/1919 Port of Glasgow

No. in Survey held at Glasgow Reg. Book.

Date, First Survey 7/1/18

Last Survey 24/5/1919

(Number of Visits 62)

on the S.S. "Heloetier" ex "War Towed"

Master Built at Glasgow By whom built Lloyds Royal Belgd (S.B.) L<sup>th</sup> (9) When built 1919

Engines made at Glasgow By whom made North British Engine Co. L<sup>th</sup> (N<sup>o</sup> 18) when made 1919

Boilers made at Renfrew By whom made Wm. Simons & Co. L<sup>th</sup> (N<sup>o</sup> 626B) when made 1919

Registered Horse Power Owners Port belonging to

Nom. Horse Power as per Section 28 172 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

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

Dia. of Cylinders 18" 30" 50" Length of Stroke 33" Revs. per minute 85 Dia. of Screw shaft as per rule 10 1/4" as fitted 10 1/4" 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 — 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 — If two

liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 3'-4"

Dia. of Tunnel shaft as per rule 9 1/2" as fitted 9 1/2" Dia. of Crank shaft journals as per rule 9 1/2" as fitted 9 1/2" Dia. of Crank pin 9 3/4" Size of Crank webs 18" x 6" Dia. of thrust shaft under

collars 9 1/2" Dia. of screw 13'-3" Pitch of screw 14'-6" No. of Blades 4 State whether moveable No Total surface 60 sq. ft.

No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 18" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 2 1/2" Stroke 18" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 1 Ballast 7" x 8" x 8" 2 Feed 7" x 5" x 12" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 6 Bilge 2 1/2" In Holds, &c. 2-2 1/2" in forward hold. 2-2 1/2" in aft hold.

No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump Lie. P. Is a separate Donkey Suction fitted in Engine room & size Yes 2 1/2"

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 above

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

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 Yes worked from Engine Room Top Platform.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Steel Co. of Scotland.

Total Heating Surface of Boilers 2886 Is Forced Draft fitted No No. and Description of Boilers 2 Single ended.

Working Pressure 180 lbs/sq. in. Tested by hydraulic pressure to 360 lbs/sq. in. Date of test 11.3.19 No. of Certificate 14652

Can each boiler be worked separately Yes Area of fire grate in each boiler 48.56 sq. ft. No. and Description of Safety Valves to

each boiler Two Spring Loaded Area of each valve 4.9 sq. in. Pressure to which they are adjusted 185 lbs/sq. in. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 4'-6" Mean dia. of boilers 13'-0" Length 10'-6" Material of shell plates Steel.

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets. Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Area at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Area at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules 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

o. of Visits 6 SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

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

Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

W466-0165

Lloyd's Register Foundation



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *All as per Specification placed on board and handed over to chief engineer.*

The foregoing is a correct description,  
NORTH BRITISH DIESEL ENGINE WORKS LTD.

*Edinburgh*

Manufacturer.

Assistant Manager.

Dates of Survey while building  
During progress of work in shops -- 1918 Jan 7. 11. 17. 24. 25. 31. Feb 8. 12. Mar 11. 18. 20. 27. Apr 4. 17. 22. 25. 29. May 1. 23. 30. June 6. 20. 25. July 1. 1919  
During erection on board vessel -- 31. Aug 20. 26. Sept 6. 7. 25. Oct 3. 17. 21. 24. 29. Nov 4. 7. 15. 22. 28. Dec 2. 6. 11. 19. 1919 Jan 9. 14. 20. 30.  
Total No. of visits 62  
Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 3/10/18 Slides 7/11/18 Covers 7/11/18 Pistons 7/11/18 Rods 17/10/18  
Connecting rods 17/10/18 Crank shaft 11/12/18 Thrust shaft 12/2/19 Tunnel shafts 12/2/19 Screw shaft 12/2/19 Propeller 6/12/18  
Stern tube 6/12/18 Steam pipes tested 8/9/19 Engine and boiler seatings 16/4/19 Engines holding down bolts 7/5/19  
Completion of pumping arrangements 23/5/19 Boilers fixed 5/5/19 Engines tried under steam 23/5/19  
Completion of fitting sea connections 14/4/19 Stern tube 16/4/19 Screw shaft and propeller 16/4/19  
Main boiler safety valves adjusted 19/5/19 Thickness of adjusting washers On A Boiler P 3 5 3 2 Starboard Boiler P 3 5 3 2  
Material of Crank shaft Steel Identification Mark on Do. 18 M Material of Thrust shaft Steel Identification Mark on Do. 18 M  
Material of Tunnel shafts Steel Identification Marks on Do. 18 M Material of Screw shafts Steel Identification Marks on Do. 18 M  
Material of Steam Pipes Lapwelded Wrought Iron Test pressure 540 lb per sq in  
Is an installation fitted for burning oil fuel ✓ 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 S.S. "Lombardier".

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

*The Engines & Boilers of this vessel have been built under Special Survey, the workmanship and materials are good, they have been well fitted on board, tried under steam and found to work satisfactorily.*  
*The machinery of this vessel is eligible in my opinion for the record of + L.M.C. 5.19 in the Register Book.*

It is submitted that  
this vessel is eligible for  
THE RECORD. + L.M.C. 5.19.

Ret.  
6.6.19.

The amount of Entry Fee ... £ 24 : 13 : 8  
Special ... £ : :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 3.6.19  
When received, 26.8.19

Committee's Minute GLASGOW 3 JUN 1919

Assigned + L.M.C. 5.19.



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