

## REPORT ON MACHINERY

No. 34433

Received at London Office WED. SEP. 26 1917.

Date of writing Report 19 When handed in at Local Office 19 Port of Glasgow  
No. in Survey held at Glasgow Date, First Survey 15<sup>th</sup> Apr. 1914 Last Survey 14<sup>th</sup> Sept. 1917  
Reg. Book. on the Steel Tonnage Survey Vessel Glenavy (Number of Volls) Gross 4700.95  
Master G. Roger Built at Glasgow By whom built Harland & Wolff Ltd (No 4655) When built 1917  
Engines made at Glasgow By whom made Harland & Wolff Ltd (No 4035) when made 1917  
Boilers made at Annan By whom made Cochran & Co when made 1916  
Registered Horse Power Owners Glen Line Limited Port belonging to Glasgow  
Nom. Horse Power as per Section 28 534 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines T. S. Diesel 4 Stroke Cycle No. of Cylinders 12 No. of Cranks 12  
Dia. of Cylinders 6.30 <sup>24 13 16</sup> Length of Stroke 8.50 <sup>33 1/2</sup> Revs. per minute 130 Dia. of Screw shaft as per rule 2.98 <sup>3 1/2</sup> 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 continuous 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 Length of stern bush 5-8  
Dia. of Tunnel shaft as per rule 2.79 <sup>2 1/2</sup> Dia. of Crank shaft journals as per rule 3.59 <sup>3 1/2</sup> Dia. of Crank pin 3.90 <sup>3 1/2</sup> Size of Crank webs 26x7-3 Dia. of thrust shaft under  
collars 3.26 <sup>3 1/2</sup> Dia. of screw 12-6 Pitch of Screw 9-9 No. of Blades 3 State whether moveable Yes Total surface 48 ft  
No. of Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work  
No. of Bilge pumps 2 Diameter of ditto 8 Stroke 8 Can one be overhauled while the other is at work Yes  
No. of Donkey Engines 2 Sizes of Pumps No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room Two 3 1/2" one 5" two 3" In Holds, &c. No 1 Two 3 1/2" No 2 Two 3 1/2" No 3 Two 3 1/2" No 4 Two 3 1/2"  
No. of Bilge Injections 2 sizes 5" Connected to condenser, or to circulating pump 5 Is a separate Donkey Suction fitted in Engine room & size Yes 3 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 Yes  
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 Below  
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  
Dates of examination of completion of fitting of Sea Connections 16.5.17 of Stern Tube 16.5.17 Screw shaft and Propeller 16.5.17  
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Main Deck  
Boilers, &c.—(Letter for record) Manufacturers of Steel Steel 6. of Scotland

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers Two cylindrical  
Working Pressure 294 lb Tested by hydraulic pressure to 588 lb Date of test 9.2.15 No. of Certificate 13017  
Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to  
each boiler 2 Spring loaded Area of each valve 7.074 Pressure to which they are adjusted 295 lb Are they fitted with easing gear No  
Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers 5-6 Length 17-9 Material of shell plates S  
Thickness 13/16 Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 6/12 Cap  
long. seams 6/12 Diameter of rivet holes in long. seams 7/8 Pitch of rivets 6 1/2 Lap of plates or width of butt straps 13 1/8  
Per centages of strength of longitudinal joint rivets 87.8 plates 86 Working pressure of shell by rules 315 Size of manholes in shell 16x12  
Size of compensating ring flanged No. and Description of Furnaces in each boiler Material Outside diameter  
Length of plain part top Thickness of plates 6/16 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 Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space  
Material S Thickness 1 1/8 Pitch of stays 3-9 How are stays secured No Stays Working pressure by rules 297 Material of stays  
Diameter 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 pressure 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 Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked  
separately 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

Lloyd's Register  
W 441 0189



IS A DONKEY BOILER FITTED? Yes

If so, is a report now forwarded? Yes Gls No. 36376

SPARE GEAR. State the articles supplied:— See Separate List attached hereto

The foregoing is a correct description,

FOR HARLAND & WOLFF, LTD.,

F. E. Beck

Manufacturer.

GENERAL MANAGER,  
DIESEL ENGINE WORKS.

Dates of Survey while building  
During progress of work in shops -- June 14, 15, 24, July 13, 14, 31, Aug 14, 24, Sep 2, 3, 14, 17, 22, Nov 14, 1915, Feb 3, 17, 24, Apr 28, May 3, 6, 10, June 18, Aug 16, Sep 28, 29, Oct 9, 23  
During erection on board vessel -- Dec 2, 20, 24, 30, 1916, Jan 8, 12, 25, Feb 2, 9, 11, 14, 24, Mar 8, 9, 16, 26, 27, 29, Apr 5, 6, 7, 14, 21, 24, May 11, 14, 18, 30, June 8, 14, 16, 28, 29, July 11, 13, 14, 16, 26, 28, Aug 1, 3, 5, 9, 11, 15, 29, Sep 2, 6, 7, 11, 13, 20, 25, 27, Oct 3, 11, 20, 23, 24, Nov 1, 2, 5, 16, 24, 30, Dec 7, 12, 15, 24, 1917, Jan 9, 11, 28, Feb 6, 21, Mar 22, 23  
Total No. of visits 122 Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 24. 11. 16 Slides 3. 11. 16 Covers 16. 11. 16 Pistons 6. 9. 16 Rods 6. 9. 16

Connecting rods 3. 10. 16 Crank shaft 30. 11. 16 Thrust shaft 9. 7. 17 Tunnel shafts 5. 4. 17 Screw shaft 5. 4. 17 Propeller 16. 5. 17

Stern tube 16. 5. 17 Steam pipes tested — Engine and boiler seatings 26. 7. 17 Engines holding down bolts 26. 7. 17

Completion of pumping arrangements 10. 8. 17 Boilers fixed 26. 7. 17 Engines tried under steam 1. 9. 17, 14. 9. 17

Main boiler safety valves adjusted 24. 8. 17 Thickness of adjusting washers Sta 15 13 Pt 32

Material of Crank shaft Steel Identification Mark on Do. 465 J.E Material of Thrust shaft Steel Identification Mark on Do. 58. 59

Material of Tunnel shafts Steel Identification Marks on Do. 44. 45. 46. 76. 77. 91. 179. 619. J.P. Material of Screw shafts Steel Identification Marks on Do. 43. 29. 18

Material of Steam Pipes — Test pressure —

Is an installation fitted for burning oil fuel? Yes, in Donkey Boiler Is the flash point of the oil to be used over 150°F. Yes

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 S.S. "Bostonian" (nowhamca G. Leung)

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

are good. The machinery has been built in accordance with the approved "Plans"

and the requirements of the Rules, it has been tried at full power and found to

work well, and is eligible in my opinion to be classed with record of + LMC 9.17.

It is submitted that  
this vessel is eligible for  
**THE RECORD. + LMC 9.17.**

534 N.H.

Oil Engines 12 Cy.  $24\frac{13}{16}$  -  $33\frac{1}{2}$  4SC.SA.

Harland & Wolff Ltd. Gls. D.B. 100 lb.

Annual Survey.

The amount of Entry Fee ... £ 3 : 0 : When applied for,

Special 9/14 £ 46 : 14 : 10-9-1917

Donkey Boiler Fee 1/14 When received, 18/9-1917

Travelling Expenses (if any) £

Committee's Minute **GLASGOW. 25 SEP 1917**

Assigned + LMC 9.17



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Foundation