

## REPORT ON MACHINERY.

No. 15151

Received at London Office

THU - 5 APR 1917

Date of writing Report 28.3.1917 When handed in at Local Office 30.3.1917 Port of Leith  
 No. in Survey held at Allea Date, First Survey 29.2.16 Last Survey 26.3.1917  
 Reg. Book. on the Ys Stradi (Number of Visits 21)  
 Master Allea Built at Allea By whom built Jaffrey & Co Tons { Gross 326.46  
 Engines made at Allea By whom made Jaffrey & Co when made 1917 Net 113.50  
 Boilers made at Allea By whom made A. W. Daffish when made 1917  
 Registered Horse Power 71 Owners Messrs. Howden Bros Port belonging to Belfast  
 Nom. Horse Power as per Section 28 71 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Compound No. of Cylinders 2 No. of Cranks 2  
 Dia. of Cylinders 16 1/2" x 36" Length of Stroke 24" Revs. per minute 100 Dia. of Screw shaft 4.66 Material of screw shaft Iron  
 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 36"  
 Dia. of Tunnel shaft 7 1/2" Dia. of Crank shaft journals 7 1/2" Dia. of Crank pin 7 1/2" Size of Crank webs 3 1/2" x 5 1/2" Dia. of thrust shaft under  
 collars 7 1/2" Dia. of screw 9.0" Pitch of Screw 11-6" No. of Blades 4 State whether moveable Yes Total surface 305"  
 No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 2 Sizes of Pumps 6x6x6 5x3 1/2 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 4, 2 1/4" In Holds, &c. 2 In main hold 2 1/2"

No. of Bilge Injections 1 sizes 4" 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 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 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 Bilge Suction Pipes How are they protected Strong Wood Casings  
 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 26/3/17 of Stern Tube 26/3/17 Screw shaft and Propeller 26/3/17  
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door — worked from —

BOILERS, &c.—(Letter for record —) Manufacturers of Steel In Glasgow Report 36610

Total Heating Surface of Boilers 1300 Is Forced Draft fitted No No. and Description of Boilers  
 Working Pressure — Tested by hydraulic pressure to — Date of test — No. of Certificate —  
 Can each boiler be worked separately — Area of fire grate in each boiler 114 1/2 No. and Description of Safety Valves to  
 each boiler 2 Spring Valves Area of each valve 4 9" Pressure to which they are adjusted 140 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork way boiler Mean dia. of boilers — Length — Material of shell plates  
 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 — 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 — Thickness of plates — 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 — Thickness — Pitch of stays — How are stays secured — Working pressure by rules — 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 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 — 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 —

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VERTICAL DONKEY BOILER— ~~Manufacturers of Steel~~ *None*

No. \_\_\_\_\_ Description \_\_\_\_\_  
 Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety  
 Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_  
 If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_  
 Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_  
 Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Plates \_\_\_\_\_  
 Working pressure of shell by rules \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of stays to do. \_\_\_\_\_ Dia. of stays \_\_\_\_\_  
 Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of joint \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ Stayed by \_\_\_\_\_  
 Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:— *Two top end and two bottom end connecting rods  
 bolts and nuts, two main bearing bolts, one set coupling bolts, one set  
 end and lift pump valves, assorted bolts and nuts, 2000 of various sizes.*

The foregoing is a correct description,

Manufacturer.

FOR A. JEFFREY & CO., LTD.

*Robt. J. Jeffrey* DIRECTOR

Dates of Survey while building { During progress of work in shops - - 1916 Feb 29, Mar 23, 29, Apr 13, ~~May 5~~, May 30, June 6, 20, 22, 28, July 5, 22, Aug 7, Sept 13, Oct 17, Nov 1, 8, 15, Dec 1.  
 { During erection on board vessel - - 1917 Feb 28, Mar 26.  
 Total No. of visits 21

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

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Dates of Examination of principal parts—Cylinders *13/9/16* Slides *1/12/16* Covers *9/10/16* Pistons *9/10/16* Rods *3/11/16*  
 Connecting rods *3/11/16* Crank shaft *27/12/16* Thrust shaft *27/12/16* Tunnel shafts *None* Screw shaft *30/5/16* Propeller *1/12/16*  
 Stern tube *1/12/16* Steam pipes tested *17/3/17* Engine and boiler seatings *28/2/17* Engines holding down bolts *28/2/17*  
 Completion of pumping arrangements *26/3/17* Boilers fixed *26/3/17* Engines tried under steam *26/3/17*  
 Main boiler safety valves adjusted *26/3/17* Thickness of adjusting washers *10 3/8" and 5 3/8"*  
 Material of Crank shaft *Steel* Identification Mark on Do. *4287 GAA* Material of Thrust shaft *Steel* Identification Mark on Do. *4287 GAA*  
 Material of Tunnel shafts *✓* Identification Marks on Do. *—* Material of Screw shafts *Iron* Identification Marks on Do. *4287 GAA*  
 Material of Steam Pipes *Steel ✓* Test pressure *405 lbs ✓*

General Remarks (State quality of workmanship, opinions as to class, &c. *The Machinery of this vessel has been built under special survey. The materials and workmanships are sound and good and under the vessel slipth in my opinion to have run 1-1 L.M.C. 3.17.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 3.17.

*J.R.G.*

*J.W.D.*  
*13/4/17*

The amount of Entry Fee .. £ 1 : : When applied for, *4/4/17*  
 Special .. £ 10 13 : :  
 Donkey Boiler Fee .. £ : : When received, *10/4/17*  
 Travelling Expenses (if any) £ 2 : 2 : *12/4*

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

Committee's Minute

Assigned

MACHINERY CERTIFICATE WRITTEN

*FRI 13 APR 1917*  
*+ L.M.C. 3.17*

Lloyd's Register Foundation

Certificate (if required) to be sent to

Is a Report also sent on the Hull of the ship?

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