

REPORT ON MACHINERY.

No. 27468
26.10.17

Received at London Office

Date of writing Report 21 Feb 17 When handed in at Local Office 10

Port of Belfast

No. in Survey held at Belfast
Reg. Book.

Date, First Survey 25 Oct 1915 Last Survey 3 Feb 1917

on the S.S. Appleleaf

Master R.D. Williams

Built at Belfast

By whom built Workman Clark & Co

Engines made at Belfast

By whom made

Boilers made at

By whom made

Registered Horse Power

Nom. Horse Power as per Section 28 1102

Owner The Lord Commissioners of Port belonging to London
The Admiralty Lane & Macaulay Managing Agents
Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ENGINES, &c.—Description of Engines Twin Screw Triple Expansion No. of Cylinders 6 No. of Cranks 6

Dia. of Cylinders 26"-42½"-70" Length of Stroke 45" Revs. per minute 100 Dia. of Screw shaft as per rule 14.79 Material of screw shafts 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 outboard shaft unprotected Length of stern bush 72"

Dia. of Tunnel shaft as per rule 13.62 Dia. of Crank shaft journals as per rule 13.83 Dia. of Crank pin 14½" Size of Crank webs 20½" x 9½" Dia. of thrust shaft under

collars 14½" Dia. of screw 15"-6" Pitch of Screw 18"-0" No. of Blades 3 State whether moveable No Total surface 76 sq ft.

No. of Feed pumps 10 Discharge on Stroke Main Can one be overhauled while the other is at work

No. of Bilge pumps - Diameter of ditto - Stroke - Can one be overhauled while the other is at work

No. of Donkey Engines 2 See other sheet No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 6 - 3½" and 4" Effectors In Holds, &c. 1-3" Hft Lurch 2-3" Lurch Recor.

3-3" Effectors Hft Pump Room 1-3" Effectors Hft Pump Room

No. of Bilge Injections 4 sizes 2"-10" Connected to condenser, or to circulating pump Pump a separate Donkey Suction fitted in Engine room & size 3"-3½"

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

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 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 16-8-16 of Stern Tube 15-11-16 Screw shaft and Propeller 23-11-16

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

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Glasgow & Co. & Spencer Newcastle

Total Heating Surface of Boilers 17490 Is Forced Draft fitted Yes No. and Description of Boilers 6 Single Tub Cyl

Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 9-6-16 No. of Certificates 492-493

Can each boiler be worked separately Yes Area of fire grate in each boiler 100 sq ft Description of Safety Valves to

each boiler 2-Direct Spring Area of each valve 2.56 sq in pressure to which they are adjusted 200 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 15'-6" Length 11'-9" Material of shell plates Steel

Thickness 1½" Range of tensile strength 29½"-32½" Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L & J

long. seams Butt Lap Diameter of rivet holes in long. seams 1½" Pitch of rivets 10½" Lap of plates or width of butt straps 22½"

Per centages of strength of longitudinal joint rivets 86.8 plate 85.4 Working pressure of shell by rules 23/16 Size of manhole in shell 6" x 12"

Size of compensating ring 11" No. and Description of Furnaces in each boiler 3-Heighten Material Steel Outside diameter 50½"

Length of plain part top 8" Thickness of plates crown 1½" bottom 1½" Description of longitudinal joint Welded No. of strengthening rings

Working pressure of furnace by the rules 224 lbs Combustion chamber plates: Material Steel Thickness: Sides 4¼" Back 6¼" W ½" op 4¼" Bottom 5"

Pitch of stays to ditto: Sides 8" x 8½" Back 8" x 7½" If stays are fitted with nuts or riveted heads No Working pressure by rules 219 lbs

Material of stays Steel Diameter at smallest part 176.5 219 Area supported by each stay 68.5 Working pressure by rules 229 lbs End plates in steam space

Material Steel Thickness 1½" Pitch of stays 17.2 x 21 How are stays secured Bolted Working pressure by rules 208 lbs Material of stays Steel

Diameter at smallest part 78.5 219 Area supported by each stay 430.5 Working pressure by rules 205 lbs Material of Front plates at bottom Steel

Thickness 1" Material of Lower back plate Steel Thickness 4½" Greatest pitch of stays 15½" x 8½" Working pressure of plate by rules 200 lbs

Diameter of tubes 2½" Pitch of tubes 3½" x 3½" Material of tube plate Steel Thickness: Front 6¼" Back 1½" Mean pitch of stays 1½" x 1½"

Pitch across wide water spaces 13½" Working pressures by rules 204 lbs Rinders to Chamber tops: Material Steel Depth and

thickness of girder at centre 98" x (¾" x 2) Length as per rule 32½" Distance apart 8" x 6½" Number and pitch of stays in each 3-7½"

Working pressure by rules 203 lbs 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 2021 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

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied: -

See other sheet

The foregoing is a correct description,

FOR WORKMAN, CLARK & CO., LIMITED

M. H. Bell

Manufacturer.

Dates of Survey while building { During progress of work in shops - - -
During erection on board vessel - - -
Total No. of visits *117*

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

Dates of Examination of principal parts - Cylinders *15"* Slides *15"* Covers *"* Pistons *5"* Rods *"*
Connecting rods *9-11-16* Crank shaft *22* Thrust shaft *15* Tunnel shafts *8* Screw shaft *10-11-16* Propeller *9-11-17*
Stern tube *1-11-16* Steam pipes tested *1-1-17* Engine and boiler seatings *5-1-17* Engines holding down bolts *5-1-17*
Completion of pumping arrangements *15-2-17* Boilers fixed *11-2-16* Engines tried under steam *15-2-17*
Main boiler safety valves adjusted *7-2-17* Thickness of adjusting washers *4-1/8"*
Material of Crank shaft *Steel* Identification Mark on Do. *460 YPS* Material of Thrust shaft *460* Identification Mark on Do. *460 YPS*
Material of Tunnel shafts *460* Identification Marks on Do. *460* Material of Screw shafts *460* Identification Marks on Do. *460*
Material of Steam Pipes *Steel* Test pressure *600 lbs*

Is an installation fitted for burning oil fuel *Yes* 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 *No* If so, state name of vessel

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

The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules, and the letters of instructions from the Secretary.

The materials and the workmanship are of good description and on steam trials in Belfast Lough, the machinery worked satisfactorily.

In my opinion, it is eligible for records + L.M.C. 2-17, with notation "Forced Draft", "Electric Light", "Fitted for oil fuel F.P. 150°F."

If it is submitted that this vessel is eligible for THE RECORD + L.M.C. 2-17. F.D. Fitted for oil fuel 2-17. F.P. above 150°F.

The amount of Entry Fee ... £

Special ... £500

Donkey Boiler Fee ... £

Inclusive Fee: - *Shilling*

Travelling Expenses (if any) £

When applied for,

22/2/17 (L.M.C.)

Then received,

12/4/17 (L.M.C.)

29/1/19

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

FRI. 24 MAY 1918

FRI. 26 APR. 1918

FRI. 19 SEP. 1919

Committee's Minute TUE. 6 MAR. 1917

Assigned

+ L.M.C. 2-17

Fitted for oil fuel 2-17 F.P. above 150°F

Rpt. 9a.

Port of *Belfast*

Continuation of Report No. *4468* dated *21st Feb 1916* on the

P.S. Appleleaf (ex Texol)

List of Pumps

2 Main Air Pumps 11" x 20" x 15"

2 Centrifugal Circulating 14" diam. inlet

2 Main Feed Pumps 13 1/2" x 10" x 26"

2 - Aux. - 10 1/2" x 8" x 18"

3 Ballast - 15 1/2" x 11" x 21"

1 Sanitary - 10" x 8" x 18"

1 Fresh Water - 7 1/2" x 9" x 18"

1 Bilge - 6 1/2" x 6 1/2" x 15"

1 - Portable Electric (Capacity 5 Tons per hour)

Spare Gear

1 Propeller Shaft

2 Propellers.

1 Stern Lubricator

1/3 Crank Shaft

2 Pair Top end braces

2 - Bottoms -

2 - main bearing bushes

Eccentric Rod straps complete.

Complete set thrust block shoes

Set Quadrant Clippers

Pair braces for valve spindle guide

3 Piston rods with crossheads + clippers complete

Piston packing rings, + springs, 1 set for each cyl. each engine

Piston valve packing rings

3 Slide valve rods.

Set safety valve springs

1/2 set screw stays for 1 boiler

Levers for boiler tubes, 1 set for all boilers

24 plain tubes for boiler

36 condenser tubes + 100 percolators

Set spare gear for auxiliary pumps

- - - oil burning installation

and all gear to Lloyd's Rules extra. ✓

P. F. Beveridge