

REPORT ON MACHINERY.

No. 39933
WED. MAY. 12 1920

Received at London Office

Writing Report *May 1920* When handed in at Local Office *4.5.20* Port of *Glasgow*
 Survey held at *Glasgow* Date, First Survey *21.1.19* Last Survey *28.4.1920*
 on the *S. S. "Dynamo"* (Number of Visits *45*)
 Built at *Birmingham* By whom built *R. Williamson & Son 18230* When built *1920*
 Made at *Glasgow* By whom made *John Kie & Baxters* Signet No *938* when made *1920*
 Made at *Birkenhead* By whom made *Cammell Laird 182014* when made *1920*
 Rated Horse Power Owners *Ellerman Wilson Line* Port belonging to *Hull*
 Horse Power as per Section 28 *63.102* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *No*

ENGINES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *3* No. of Cranks *3*
 of Cylinders *14" x 24" x 39"* Length of Stroke *27"* Revs. per minute *108* Dia. of Screw shaft as per rule *8.27* Material of *Iron*
 as fitted *8.78* screw shaft
 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
 propeller boss *Yes* If the liner is in more than one length are the joints burned *Yes* If the liner does not fit tightly at the part
 in 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 *Yes* Length of stern bush *34 1/2"*
 of Tunnel shaft as per rule *7.17* Dia. of Crank shaft journals as per rule *7.52* Dia. of Crank pin *7 5/8"* Size of Crank webs *13 3/4" x 4 3/4"* Dia. of thrust shaft under
 as fitted *7 5/8"* Dia. of screw *10-6"* Pitch of Screw *10-6"* No. of Blades *4* State whether moveable *No* Total surface *389 ft.*
 of Feed pumps *1* Diameter of ditto *3 1/4"* Stroke *12"* Can one be overhauled while the other is at work *Yes*
 of Bilge pumps *1* Diameter of ditto *3 1/4"* Stroke *12"* Can one be overhauled while the other is at work *Yes*
 of Donkey Engines *2* Sizes of Pumps *General 6x4x6"* No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room *2-2 1/2" dia* In Holds, &c. *2-2" dia*

Bilge Injections *One* sizes *3 1/2"* Connected to *condensers* to circulating pump *Yes* Is a separate Donkey Suction fitted in Engine room & size *One 2 1/2" dia*
 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*
 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 stokehold plates *Yes* Are the Discharge Pipes above or below the deep water line *above*
 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 *Leak Bilge Suctions* How are they protected *hard casing*
 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 *Barrow* of Stern Tube *12/4/20* Screw shaft and Propeller *12/4/20*
 Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Yes*

BOILERS, &c.—(Letter for record) Manufacturers of Steel *I.S.B.*
 Heating Surface of Boilers *18095 sq ft* Is Forced Draft fitted *No* No. and Description of Boilers *One Single ended*
 Working Pressure *180 lbs* Tested by hydraulic pressure to *2077* No. of Certificate *2077*
 Each boiler be worked separately *One* Area of fire grate in each boiler *5.9 sq ft* No. and Description of Safety Valves to *185*
 boiler *2-2 1/2" dia double Spring* Area of each valve *5.9 sq ft* Pressure to which they are adjusted *185* Are they fitted with easing gear *Yes*
 Least distance between boilers or uptakes and bunkers or woodwork *7-3"* Mean dia. of boilers *10 1/2"* Length *17 1/2'* Material of shell plates *10 1/2"*
 Range of tensile strength *10 1/2"* Are the shell plates welded or flanged *Yes* Description of riveting: cir. seams *10 1/2"*
 seams *10 1/2"* Diameter of rivet holes in long. seams *10 1/2"* Pitch of rivets *10 1/2"* Lap of plates or width of butt straps *10 1/2"*
 Percentages of strength of longitudinal joint *10 1/2"* Working pressure of shell by rules *10 1/2"* Size of manhole in shell *10 1/2"*
 of compensating ring *10 1/2"* No. and Description of Furnaces in each boiler *10 1/2"* Material *10 1/2"* Outside diameter *10 1/2"*
 of plain part *10 1/2"* Thickness of plates *10 1/2"* Description of longitudinal joint *10 1/2"* No. of strengthening rings *10 1/2"*
 Working pressure of furnace by the rules *10 1/2"* Combustion chamber plates: material *10 1/2"* Thickness: Sides *10 1/2"* Back *10 1/2"* Top *10 1/2"* Bottom *10 1/2"*
 of stays to ditto: Sides *10 1/2"* Back *10 1/2"* Top *10 1/2"* Are they fitted with nuts or riveted heads *10 1/2"* Working pressure by rules *10 1/2"*
 Material of stays *10 1/2"* Diameter at smallest part *10 1/2"* Area supported by each stay *10 1/2"* Working pressure by rules *10 1/2"* End plates in steam space: *10 1/2"*
 Material *10 1/2"* Thickness *10 1/2"* Pitch of stays *10 1/2"* How are stays secured *10 1/2"* Working pressure by rules *10 1/2"* Material of stays *10 1/2"*
 Diameter at smallest part *10 1/2"* Area supported by each stay *10 1/2"* Working pressure by rules *10 1/2"* Material of Front plates at bottom *10 1/2"*
 Thickness *10 1/2"* Material of Lower back plate *10 1/2"* Thickness *10 1/2"* Greatest pitch of stays *10 1/2"* Working pressure of plate by rules *10 1/2"*
 Diameter of tubes *10 1/2"* Pitch of tubes *10 1/2"* Material of tube plates *10 1/2"* Thickness: Front *10 1/2"* Back *10 1/2"* Mean pitch of stays *10 1/2"*
 across wide water spaces *10 1/2"* Working pressures by rules *10 1/2"* Girders to Chamber tops: Material *10 1/2"* Depth and *10 1/2"*
 thickness of girder at centre *10 1/2"* Length as per rule *10 1/2"* Distance apart *10 1/2"* Number and pitch of stays in each *10 1/2"*
 Working pressure by rules *10 1/2"* Superheater or Steam chest; how connected to boiler *10 1/2"* Can the superheater be shut off and the boiler worked *10 1/2"*
 Material *10 1/2"* Diameter *10 1/2"* Length *10 1/2"* Thickness of shell plates *10 1/2"* Material *10 1/2"* Description of longitudinal joint *10 1/2"* Diam. of rivet *10 1/2"*
 Pitch of rivets *10 1/2"* Working pressure of shell by rules *10 1/2"* Diameter of flue *10 1/2"* Material of flue plates *10 1/2"* Thickness *10 1/2"*
 fitted with rings *10 1/2"* Distance between rings *10 1/2"* Working pressure by rules *10 1/2"* End plates: Thickness *10 1/2"* How stayed *10 1/2"*
 Working pressure of end plates *10 1/2"* Area of safety valves to superheater *10 1/2"* Are they fitted with easing gear *10 1/2"*

W 29-0039

VERTICAL DONKEY BOILER— Manufacturers of Steel ✓

No. 2211 Description Vertical Cross Tube.

Made at ✓ By whom made A Anderson & Sons Ltd When made ✓ Where fixed ✓

Working pressure tested by hydraulic pressure to Date of test No. of Certificate 15043 Fire grate area 39561 Description of

Valves No. of Safety Valves Area of each Pressure to which they are adjusted no. 39561 Date of adjustment

If fitted with easing gear If steam from main boilers can enter the 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 Pit 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 See Report 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:— 2 Connecting Rod Top End Bolts & Nuts
2 Main Bearing Bolts & Nuts, 2 Connecting Rod Bottom End Bolts & Nuts
1 Set of Coupling Bolts, 1 Set of Feed Pump Valves, 1 Set of Pulge Pump valves
Assorted Bolts & Nuts

The foregoing is a correct description,

McKie & Baxter

Manufacturer.

Dates of Survey while building During progress of work in shops -- 1919 Jan 21-23 Feb 10-19 21 Mar 17-19 25 May 15-21 23 26 28 June 4-3 9 12-13 17-19 23-26 July 9-11 Aug 11-22 28 Sept 17 Oct 6 Dec 1 1920 Jan 26-28 Feb 2-14 Mar 1-23 17-18 24 April 12-25
Total No. of visits Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 19-6-19 Slides 28/8/19 Covers 28/8/19 Pistons 17-6-19 Rods 11/8/19
Connecting rods 22/8/19 Crank shaft 23-6-19 Thrust shaft 9/7/19 Tunnel shafts Done Screw shaft 2/2/20 Propeller 3/3/20
Stern tube 2/2/20 Steam pipes tested 14/2/20 Engine and boiler seatings Barrow. Engines holding down bolts 12/4/20
Completion of pumping arrangements 28/4/20 Boilers fixed 14/4/20 Engines tried under steam 28/4/20
Main boiler safety valves adjusted 28/4/20 Thickness of adjusting washers Port 1/2" Star 3/8"
Material of Crank shaft S Identification Mark on Do. 23-6-19 LES Material of Thrust shaft S Identification Mark on Do. 23-6-19
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. 23-6-19
Material of Steam Pipes wrought iron lap welded Test pressure 5 Hods.

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

The machinery has been built under special survey. The workmanship and materials are sound & good

The engines and boilers have now been securely fitted on board the vessel, and tried under steam with satisfactory results.

The machinery is eligible in our opinion to have notification of + L M C 4.20 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L M C. 4.20

15/5/20.

The amount of Entry Fee .. £ 2 : : When applied for, 7.5.20.
Special .. £ 3.9 : :
Donkey Boiler Fee .. £ 5.17 : :
Travelling Expenses (if any) £ : : When received, 7/8/20 then

Committee's Minute GLASGOW 11 MAY 1920

Assigned + L M C 4.20

FRI. MAY. 21 1920

subject to classification of hull CERTIFICATE WRITTEN 27.5.20

J. S. Lillie, Peter W. Geger, R. W. Coombs
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

CERTIFICATE WRITTEN 21.5.20



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