

# REPORT ON MACHINERY.

No. 39933  
WED. MAY 12 1920

Received at London Office

Writing Report *May 19 20* 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 *Stockington* By whom built *R. Williamson & Co 18930* When built *1920*  
 Made at *Glasgow* By whom made *McClelland & Co* Signet No *938* when made *1920*  
 Made at *Birkenhead* By whom made *Cammell Laird 182014* when made *1920*  
 Rated Horse Power *102* 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*  
 Diameter 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 screw shaft *Iron*  
 as fitted *8.78*  
 Is the after end of the liner made water tight *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"*  
 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 screw *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.*  
 Feed pumps *1* Diameter of ditto *3 1/4"* Stroke *12"* Can one be overhauled while the other is at work *Yes*  
 Bilge pumps *1* Diameter of ditto *3 1/4"* Stroke *12"* Can one be overhauled while the other is at work *Yes*  
 Donkey Engines *2* Sizes of Pumps *General 6x4x6" Bellows 7x5x8"* No. and size of Suctions connected to both Bilge and Donkey pumps *2-2 1/2" dia*  
 Engine Room *2-2 1/2" dia* In Holds, &c. *2-2" dia*

Bilge Injections *One size 3/2"* Connected to circulating pump *Yes* Is a separate Donkey Suction fitted in Engine room & size *One 2 1/2" dia*  
 Are 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*  
 How are the pipes carried through the bunkers *Leak Bilge Suctions* How are they protected *Good 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*  
 Date of examination of completion of fitting of Sea Connections *12/4/20* of Stern Tube *12/4/20* Screw shaft and Propeller *12/4/20*  
 Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Yes*

MANUFACTURERS, &c.—(Letter for record) Manufacturers of Steel *I.S.B.*  
 Heating Surface of Boilers *1809 sq ft* Is Forced Draft fitted *No* No. and Description of Boilers *One Single ended*  
 Working Pressure *180 lbs* Tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate *2077*  
 Can each boiler be worked separately *One* Area of fire grate in each boiler \_\_\_\_\_ No. and Description of Safety Valves to each boiler *2-2 1/2" dia Double Spring* Area of each valve *5.9 sq in* 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 \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_  
 Range of tensile strength \_\_\_\_\_ Are the shell plates welded or flanged *Welded* Description of riveting: cir. seams \_\_\_\_\_  
 Diameter of rivet holes in long. seams \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plates or width of butt straps \_\_\_\_\_  
 Percentages of strength of longitudinal joint \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Size of manhole in shell \_\_\_\_\_  
 No. and Description of Furnaces in each boiler \_\_\_\_\_ Material \_\_\_\_\_ Outside diameter \_\_\_\_\_  
 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 \_\_\_\_\_  
 Are stays to ditto: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ Are stays 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: \_\_\_\_\_  
 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 \_\_\_\_\_  
 Working pressures by rules \_\_\_\_\_ Girders to Chamber tops: Material \_\_\_\_\_ Depth and \_\_\_\_\_  
 Length as per rule \_\_\_\_\_ Distance apart \_\_\_\_\_ Number and pitch of stays in each \_\_\_\_\_  
 Superheater or Steam chest; how connected to boiler \_\_\_\_\_ Can the superheater be shut off and the boiler worked \_\_\_\_\_  
 Diameter \_\_\_\_\_ Length \_\_\_\_\_ Thickness of shell plates \_\_\_\_\_ Material \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ Diam. of rivet \_\_\_\_\_  
 Pitch of rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Diameter of flue \_\_\_\_\_ Material of flue plates \_\_\_\_\_ Thickness \_\_\_\_\_  
 Distance between rings \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates: Thickness \_\_\_\_\_ How stayed \_\_\_\_\_  
 Area of safety valves to superheater \_\_\_\_\_ Are they fitted with easing gear \_\_\_\_\_

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 \_\_\_\_\_ 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, Jun 11-3-9-12-13-17-19-23-26, July 9-11-13-15-17-19-21-23-25-27-29, Aug 11-22-28, Sept 17, Oct 6, Dec 1, 1920 Jan 26-28, Feb 2-14, Mar 1-2-3-17-18-24, April 12-14-16-18-20-22-24-26-28-30  
 During erection on board vessel: 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 \_\_\_\_\_ Screw shaft 2/2/20 Propeller 3/3/20  
 Stern tube 2/2/20 Steam pipes tested 14/2/20 Engine and boiler seatings **Baxton** 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 1/2" Star 3/8"**  
 Material of Crank shaft **S** Identification Mark on Do. **23-6-19 LLOYD'S NO 938 JES** Material of Thrust shaft **S** Identification Mark on Do. **11/8/19**  
 Material of Tunnel shafts  Identification Marks on Do.  Material of Screw shafts **Iron** Identification Marks on Do. **11/8/19**  
 Material of Steam Pipes **Brought Iron Lap welded** Test pressure **5 Hholds.**

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
 The machinery has been built under special survey. The workmanship and material 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, \_\_\_\_\_  
 Special Additional Fee .. £ **3.9** : : **7.5** : : 20.  
 Donkey Boiler Fee .. £ **5.17** : : \_\_\_\_\_  
 Travelling Expenses (if any) £ : : **7/8/20** **THIR**

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

Committee's Minute **GLASGOW 11 MAY 1920**

Assigned **+ L M C 4.20** subject to classification of hull

**FRI. MAY. 21 1920**



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Certificate (if required) to be sent to Glasgow

Writing Report  
 Survey held at \_\_\_\_\_  
 on the \_\_\_\_\_  
 made at **Glasgow**  
 made at **Birkenhead**  
 ed Horse Power \_\_\_\_\_  
**TITUBULAR BOILER**  
 for record **S**  
 One cylindrical boiler  
 Certificate 2077  
 valves to each boiler  
 fitted with easing gear  
 distance between boilers  
 of shell plates **Steel**  
 of riveting: cir. seams  
 plates or width of butt  
 Size of main  
**3- Plain** Mate  
 tion of longitudinal joint  
 Material **Steel** Thickn  
 If stays are fitted  
 Area suppo  
 stays **1 1/2" x 19 1/2"** How are  
 pported by each stay **342**  
 ack plate **Steel** ✓ T  
 tubes **4 1/2" x 4 1/2"** Mate  
 uces **14 1/2"** ✓ V  
 t centre **2- 8 1/2" x 7 1/2"**  
 pressure by rules **186**  
 Thickness o  
 rivets ✓ Won  
**HEATER.** Type  
 Test ✓  
 Safety Valve  
 During progress of work in shops - - -  
 During erection on board vessel - - -  
**RAL REMARKS**  
 Special  
 (E) of K  
 tested by  
 satisfactory  
 Fee  
 lling Expenses (if any)  
 ttee's Minute  
 ed