

REPORT ON MACHINERY.

Received at London Office

JAN. 11 1922

Date of writing Report 5th Jan^y 1922 When handed in at Local Office 8th Jan^y 1922 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 13th Feb 1920 Last Survey 4th Jan^y 1922
 Reg. Book. on the S.S. KYANITE (Number of Visits. 54) Tons } Gross 643
 } Net 266
 Master Built at Glasgow By whom built Jarrow & Co. L^{td} (11461) When built 1922
 Engines made at Glasgow By whom made Jarrow & Co. L^{td} (11461) when made 1922
 Boilers made at Glasgow By whom made Forth Shipbdy & Eng. Co. when made 1921
 Registered Horse Power Owners William Robertson Port belonging to Glasgow
 Nom. Horse Power as per Section 28 120 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

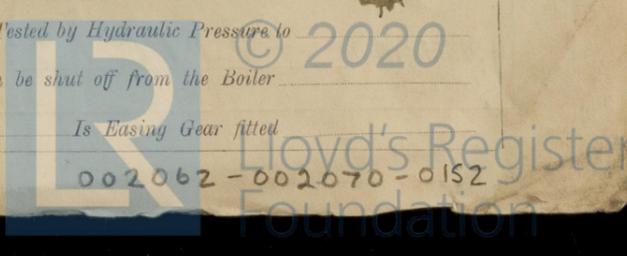
ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 15" 25 1/2" 41" Length of Stroke 30" Revs. per minute 100 Dia. of Screw shaft as per rule 8.59" Material of screw shaft Steel
 as fitted 9"
 Is the screw shaft fitted with a continuous liner the whole length 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 no 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 no If two liners are fitted, is the shaft lapped or protected between the liners no Length of stern bush 3' 2 1/2"
 Dia. of Tunnel shaft as per rule 7.46" Dia. of Crank shaft journals as per rule 8.154" Dia. of Crank pin 9" Size of Crank webs 12 1/2" x 6" Dia. of thrust shaft under collars 8 3/4" Dia. of screw 10'-0" Pitch of Screw 11'-6" No. of Blades 4 State whether moveable No Total surface 30 sq ft
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 15" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 3" Stroke 15" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 2 @ 6" x 4 1/2" x 6" Ballast 7" x 8" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2 @ 2 1/2" In Holds, &c. 2 @ 2 1/2"

No. of Bilge Injections 1 sizes 4 1/2" Connected to condenser, or to circulating pump via pp. Is a separate Donkey Suction fitted in Engine room & size yes 1 @ 2 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 none
 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 none How are they protected yes
 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
 Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door yes worked from yes

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Glasgow Iron Steel Co., William Beardmore & Co., Steel Co. of Scotland.
 Total Heating Surface of Boilers 2140 sq ft Is Forced Draft fitted no No. and Description of Boilers Two Single ended Multi-tubular
 Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs/sq in Date of test 8/9/21 No. of Certificate 15893
 Can each boiler be worked separately yes Area of fire grate in each boiler 33' 4" sq ft No. and Description of Safety Valves to each boiler 2 Spring loaded. Area of each valve 3.976 sq in Pressure to which they are adjusted 185 lbs/sq in Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 4'-0" Mean dia. of boilers 11'-0" Length 10'-0" 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 rivets..... Working pressure of shell by rules Size of manhole in shell
 plate.....
 Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter
 Length of plain part top..... Thickness of plates crown..... Description of longitudinal joint No. 41359 No. of strengthening rings
 bottom..... bottom.....
 Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Buck 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 Area 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
 Area 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 Steam dome: description of joint to shell % of strength of joint
 Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes
 Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type..... Date of Approval of Plan..... Tested by Hydraulic Pressure to.....
 Date of Test..... Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler.....
 Diameter of Safety Valve..... Pressure to which each is adjusted..... Is Easing Gear fitted.....

Is a Report also sent on the Hull of the Ship? If not, state whether, and when, one will be sent?



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

✓

SPARE GEAR. State the articles supplied:— 2 connecting rod top end bolts and nuts, 2 connecting rod bottom end bolts and nuts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed and bilge pump valves, quantity of assorted bolts and nuts, iron of various sizes.

The foregoing is a correct description,

For Messrs J. & W. G. Ltd. C.C.C. Cotton. Manufacturer. 13.12.21

Dates of Survey while building: During progress of work in shops - 1920 Feb 13 Mar 8 Apr 14 22 27 May 3 5 10 11 17 24 28 Jun 9 21 Jul 13 Aug 4 9 Sep 1 16 Nov 3 18 22 Dec 16 (1921) Jan 2 3 1921 Feb 8 18 23 28 Mar 24 30 Apr 22 29 Jun 3 Jul 5 Oct 4 6 11 15 27 Nov 14 21 23 25 27 29 Dec 1 2 5 6 8 9 12 (1922) Jan 4. Total No. of visits 54. Is the approved plan of main boiler forwarded herewith No. " " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders 22.11.20 Slides 22.11.20 Covers 22.11.20 Pistons 22.11.20 Rods 22.11.20 Connecting rods 22.11.20 Crank shaft 4.8.20 Thrust shaft 4.8.20 Tunnel shafts None Screw shaft 4.10.21 Propeller 27.10.21 Stern tube 11.10.21 Steam pipes tested 23.11.21. Engine and boiler seatings 18.10.21 Engines holding down bolts 21.11.21 Completion of pumping arrangements 2.12.21 Boilers fixed 29.11.21 Engines tried under steam 8.12.21. Completion of fitting sea connections 11.10.21 Stern tube 18.10.21 Screw shaft and propeller 27.10.21. Main boiler safety valves adjusted 2.12.21. Thickness of adjusting washers P.C. 1/4" P.V. 5/16" S.L. 1/4" P.V. 5/16"

Material of Crank shaft Steel Identification Mark on Do. LLOYD'S 1461 4.8.20 Material of Thrust shaft Steel Identification Mark on Do. LLOYD'S 1461 4.8.20 Material of Tunnel shafts None Identification Marks on Do. L Material of Screw shafts S Identification Marks on Do. LLOYD'S 1461 4.10.21 S.P.D. Material of Steam Pipes S.D. Steel Test pressure 540 lbs/sq. in.

Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F. ✓

Have the requirements of Section 49 of the Rules been complied with ✓

Is this machinery duplicate of a previous case Yes ✓ If so, state name of vessel H. Essonite. ✓

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boilers of this vessel have been built under Special Survey. The workmanship and materials are good; they have been well fitted on board, tried under steam and found to work satisfactorily.

The machinery of this vessel is eligible in our opinion for the record of L.M.C. 1.22. in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. L.M.C. - 1.22. C.L.

Glasgow

MACHINERY GEAR WRITTEN

Handwritten signature and date 12/1/22

The amount of Entry Fee ... £ 3 : 0 : 0 When applied for. Special ... £ 18 : 0 : 0 19/1/22 Mr. Murray. S.F. Dorey. Donkey Boiler Fee ... £ : : : When received. Travelling Expenses (if any) £ : : : 28.1.22

Committee's Minute GLASGOW Assigned + LMC 1,22



Vertical text on the left margin: Certificate (if required) to be sent to... The Surveyors are requested not to write on or below the space for Committee's Minute.