

REPORT ON MACHINERY.

No. 42395.

Received at London Office

WED. 27 DEC. 1922

Date of writing Report 22-12-22 When handed in at Local Office 22-12-22 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey Dec 1921 Last Survey Dec 1922

Reg. Book. 78203 on the S/S British Architect (Number of Visits 1)

Master Glasgow Built at Glasgow By whom built Blythwood 82670901 When built 1922

Engines made at Glasgow By whom made Dunrobin Jackson L. (538) when made 1922

Boilers made at Glasgow By whom made Dunrobin Jackson L. (538) when made 1922

Registered Horse Power 616 Owners British Tankers Ltd Port belonging to London

Nom. Horse Power as per Section 28 616 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 25" - 12 1/2" - 12" Length of Stroke 54" Revs. per minute 150 Dia. of Screw shaft 15" Material of screw shaft S

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 Yes 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 Yes Length of stern bush 5' 4"

Dia. of Tunnel shaft 14 1/4" Dia. of Crank shaft journals 14 5/8" Dia. of Crank pin 15 1/4" Size of Crank webs 29 1/2" x 10" Dia. of thrust shaft under collars 15 1/4" Dia. of screw 18' 0" Pitch of Screw 18' 6" No. of Blades 4 State whether moveable Yes Total surface 107 sq ft

No. of Feed pumps 2 Diameter of ditto 4 1/4" Stroke 26" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/4" Stroke 26" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 4 Sizes of Pumps 1 pair W.P.S. 10 1/2" x 8" 2 pair 8" x 5 1/2" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps 2 3 1/2" P+S

In Engine Room 2 2 3/4" P+S 1 1 1/2" 3 1/2" In Holds, &c. 2 3 1/2" Stokehold P+S

Four Cofferdams 1 3 1/2" 2 3" 2 3" 1 3 1/2"

No. of Bilge Injections 8" Connected to circulating pump Is a separate Donkey Suction fitted in Engine room & size Yes 3 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 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 Both

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 None

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 None worked from None

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Steel Co of Scotland & Spence

Total Heating Surface of Boilers 9216 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 3 Single Ended

Working Pressure 215 Tested by hydraulic pressure to 430 Date of test 8-8-22 No. of Certificate 16093

Can each boiler be worked separately Yes Area of fire grate in each boiler 64 5/8 sq ft No. and Description of Safety Valves to each boiler Double Spring Area of each valve 11.04 sq ft Pressure to which they are adjusted 220 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 16 1/2" Mean dia. of boilers 12' 0" Material of shell plates S

Thickness 1 1/2" Range of tensile strength 29-33 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR long. seams TR DBS Diameter of rivet holes in long. seams 17/32" Pitch of rivets 10 1/2" Lap of plates or width of butt straps 1-10 3/4"

Per centages of strength of longitudinal joint 86.9% Working pressure of shell by rules 215 Size of manhole in shell 16 1/2"

Size of compensating ring 29 1/2" x 3 1/2" x 1 1/2" No. and Description of Furnaces in each boiler 3 Corrugated Material None Outside diameter 4' 3"

Length of plain part 29 1/2" Thickness of plates 3 1/2" Description of longitudinal joint weld No. of strengthening rings None

Working pressure of furnace by the rules 218 Combustion chamber plates: Material S Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 29/32"

Pitch of stays to ditto: Sides 4 x 9 1/8" Back 9 1/8" x 9 1/8" Top 9 x 9" If stays are fitted with nuts or riveted heads None Working pressure by rules 225

Material of stays S Area at smallest part 23 1/2" x 3 1/2" Area supported by each stay 84 3/5 sq ft Working pressure by rules 247 End plates in steam space: Material S Thickness 1 25/64" Pitch of stays 22 1/2" x 1 3/4" How are stays secured DN Working pressure by rules 222 Material of stays S

Area at smallest part 829 sq ft Area supported by each stay 412 sq ft Working pressure by rules 216 Material of Front plates at bottom S

Thickness 1 1/4" Material of Lower back plate S Thickness 3/32" Greatest pitch of stays 14 3/4" x 9 1/16" Working pressure of plate by rules 228

Diameter of tubes 2 1/2" Pitch of tubes 33 1/4" x 33 1/4" Material of tube plates S Thickness: Front 1 1/64" Back 27/32" Mean pitch of stays None

Pitch across wide water spaces 3 1/2" Working pressures by rules 218 Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 10 x 1" (2) Length as per rule 36 3/32" Distance apart 9" Number and pitch of stays in each 3 at 9"

Working pressure by rules 221 Steam dome: description of joint to shell None % of strength of joint None

Diameter None Thickness of shell plates None Material None Description of longitudinal joint None Diam. of rivet holes None

Pitch of rivets None Working pressure of shell by rules None Crown plates None Thickness None How stayed None

SUPERHEATER. Type None Date of Approval of Plan None Tested by Hydraulic Pressure to None

Date of Test None Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler None

Diameter of Safety Valve None Pressure to which each is adjusted None Is Easing Gear fitted None

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied: - *2 Connecting Rod bolts for top end, bolts for bottom end, 2 main bearing bolts, 1 set of coupling bolts 1 set of feed & balance pump bolts, 1 set of piston rings, a quantity of assorted bolts nuts & steel of various sizes.*

The foregoing is a correct description,

DUNSMUIR & JACKSON, Limited.

James Fletcher Director

Manufacturer.

Dates of Survey while building: During progress of work in shops - *1922 July 17, July 25, Aug 1-22, 24, Apr 12-27, May 5-5, June 1-17, July 5, Aug 2-11-16-22, 24, 25, 28, Oct 4-5, 7, 25, Nov 7, 22, (1922) July 11-22, 23, 25-27, 30, Feb 9, 16, 17, 22, Mar 6-24, 27, Apr 19-27, May 1-16-18-24, June 6, July 5, Aug 1-8-11-15-23, Sept 4-8-14-15-19-27, 29, Oct 4-12-17-19, 20, 26, 31, Nov. 3, 7, 15-17-22, Dec. 4, 19.* Total No. of visits *73.*

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

" " " donkey " " " *Yes*

Dates of Examination of principal parts - Cylinders *11-8-22* Slides *8-8-22* Covers *1-8-22* Pistons *5-10-21* Rods *6-6-22*

Connecting rods *6-6-22* Crank shaft *4-11-21* Thrust shaft *4-11-21* Tunnel shafts *19-4-22* Screw shaft *16-5-22* Propeller *5-7-22*

Stern tube *1-8-22* Steam pipes tested *4-9-22* Engine and boiler seatings *19-9-22* Engines holding down bolts *23-11-22*

Completion of pumping arrangements *24-10-22* Boilers fixed *24-10-22* Engines tried under steam *19-12-22* ✓

Completion of fitting sea connections *19-9-22* Stern tube *19-9-22* Screw shaft and propeller *19-9-22*

Main boiler safety valves adjusted *23-11-22* Thickness of adjusting washers *P 9/32 S 1/16 P 3/8 S 3/8 F 29/64 A 1/32* *Donkey Boiler* *5/16-9/32*

Material of Crank shaft *S* Identification Mark on Do. *LLOYDS 538* Material of Thrust shaft *S* Identification Mark on Do. *LLOYDS*

Material of Tunnel shafts *S* Identification Marks on Do. *W.G.M* Material of Screw shafts *S* Identification Marks on Do. *W.G.M 738*

Material of Steam Pipes *Iron* Test pressure *645*

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? *Yes* If so, state name of vessel *S/S TOCO 41853 S/S Clukey 41853*

General Remarks (State quality of workmanship, opinions as to class, &c. *Pure Engines & Boilers have been built*

under special survey in accordance with the approved plans & the workmanship & material are of good quality & they have been securely fitted on board & run under steam of good satisfactory pressure. The machinery is eligible in my opinion to be classed with the record of L.M.C. 12-22. Notation of fitted for oil fuel 12-22 F.P. above 150°F

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 12.22. F.D. C.L.

"Fitted for Oil Fuel" 12.22. F.P. above 150°F.

A.H.B.
28/12/22

The amount of Entry Fee ... £ 6- - :
Special ... £ 105 : 16 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :

When applied for, *25/12/22*

When received, *27/12/22*

Gordon - Muir

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW** 26 DEC. 1922

Assigned + L.M.C. 12.22.

MACHINERY DEPT. Fitted for oil fuel 12.22 F.P. above 150°F.
WRITTEN: *28/12/22* + copy 15/1/23



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Glasgow

21.12.22

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