

Rpt. 4.

REPORT ON MACHINERY

No. 42164

Date of writing Report 18.9.22 When handed in at Local Office 18.9.22 Port of Glasgow Received at London Office 20 SEP. 1922

No. in Survey held at Reg. Book. on the Glasgow S/S "Shukry" Date First Survey 29th Sept 1921 Last Survey 12th Sept. 1922 (Number of Visits 52)

Master Built at Glasgow By whom built J. & W. Wood & Co. Ltd. (3) Tons Gross 7335 Net 4259

Engines made at Glasgow By whom made Dunsen & Adamson & Co. Ltd. when made 1922

Boilers made at do By whom made do when made 1922

Registered Horse Power 540 when made 1922 Owners Shudan S/S Co. 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

Dia. of Cylinders 25" 42 1/2" 42" Length of Stroke 54 Revs. per minute 81 No. of Cylinders 3 No. of Cranks 3

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Dia. of Screw shaft as per rule 15 1/4" as fitted 16" Material of screw shaft S

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 5.4"

Dia. of Tunnel shaft as per rule 14 1/4" as fitted 14 3/4" Dia. of Crank shaft journals as per rule 14.87" as fitted 15 1/4" Dia. of Crank pin 15 1/4" Size of Crank web 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 107.4"

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 In Engine Room 2 3 1/2" Strokehold 2 3 1/2" at Well 1 3 1/2" In Holds, &c. Fore Cofferdam 1 3 1/2" at Cofferdam 2.3" Four Peak 1 3 1/2"

No. of Bilge Injections 5 All sizes 8" Connected to circulating pump Yes Is a separate Donkey Suction fitted in Engine room of 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 No

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 No

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 No worked from No

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

Total Heating Surface of Boilers 9216.7 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 3.4.22 No. of Certificate 16041

Can each boiler be worked separately Yes Area of fire grate in each boiler 64.5/8" No. of Certificate 16046

each boiler Double Drum Area of each valve 11.04" Pressure to which they are adjusted 220 No. and Description of Safety Valves to Smallest distance between boilers or uptakes and bunkers or woodwork 3.0 Mean dia. of boilers 16-1/2" Length 2.0" Material of shell plates S

Thickness 1/2" Range of tensile strength 29,33 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR

long. seams TRIBS Diameter of rivet holes in long. seams 17/32" Pitch of rivets 10 1/2" Lap or width of butt straps 1-10 3/4"

Per centages of strength of longitudinal joint rivets 86.9% plate 85.4% Working pressure of shell by rules 215 Size of manhole in shell 16 x 12"

Size of compensating ring 20 1/2" x 3 1/2" x 11" No. and Description of Furnaces in each boiler 3 Corrugated Material S Outside diameter 4.3"

Length of plain part top bottom Thickness of plates crown 123/32" Description of longitudinal joint welded No. of strengthening rings 1

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 9.9 1/8" Back 9.7 3/8" Top 9.9" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 225

Material of stays S Area at smallest part 23.2 1/2" x 4.3" Area supported by each stay 84.3 1/8" Working pressure by rules 247 End plates in steam space:

Material S Thickness 1 25/64" Pitch of stays 22 1/2" x 1 1/4" How are stays secured DN Working pressure by rules 222 Material of stays S

Area at smallest part 820" Area supported by each stay 41.2" Working pressure by rules 216 Material of Front plates at bottom S

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

Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plates S Thickness: Front 1/16" Back 27/32" Mean pitch of stays 13 1/2"

Pitch across wide water spaces 13 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 26 1/2" 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 % 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

UPERHEATER. 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

Lloyd's Register Foundation

W675-8180

IS A DONKEY BOILER FITTED?

910

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - 2 Connecting Rod bolts, nuts for top end, ditto for bottom end, 2 Main Bearing bolts, 1 Set of Coupling bolts, 1 Set of Feed & Bilge Pump Vahs, 1 Set of L.P. Piston Rings, Springs on Propeller Shaft, 1/3" Crank Shaft, a quantity of assorted bolts, nuts & iron of various sizes.

The foregoing is a correct description, For DUNSMUIR & JACKSON, Limited.

Jas. F. Aldam, Manufacturer.

Dates of Survey while building: During progress of work in shops - 1921 Sep 2, 9, 13, 16, 17, 25, Nov 22, 1922 Jan 11, 12, 17, 20, Feb 10, 17, March 1, 8, 10, 13, 17, 21, 27, 29, 30, 31, May 8, 10, 15, 16, 18, 19, 22, 24, 27, 29, 30, June 6, 22. During erection on board vessel - 23, 30, Jul, 3, 4, 5, 6, Aug 1, 2, 4, 9, 10, 16, 21, 29, Sep 6, 12. Total No. of visits: 52.

Is the approved plan of main boiler forwarded herewith? Yes. Is the approved plan of main boiler forwarded herewith for "donkey"? Yes.

Dates of Examination of principal parts: Cylinders 14, 2, 22; Slides 5, 5, 22; Covers 14, 2, 22; Pistons 12, 1, 22; Rods 12, 1, 22; Connecting rods 12, 1, 22; Crank shaft 14, 1, 22; Thrust shaft 17, 1, 22; Tunnel shafts 19, 4, 22; Screw shaft 10, 3, 22; Propeller 10, 3, 22; Stern tube 10, 3, 22; Steam pipes tested 7, 7, 22; Engine and boiler seatings 10, 5, 22; Engines holding down bolts 1, 8, 22; Completion of pumping arrangements 4, 8, 22; Boilers fixed 1, 8, 22; Engines tried under steam 12, 9, 22; Completion of fitting sea connections 10, 5, 22; Stern tube 10, 5, 22; Screw shaft and propeller 10, 5, 22; Main boiler safety valves adjusted 4, 5, 22; Thickness of adjusting washers S 3/8 P 3/8 A 3/16 F 3/16 B 5/16 P 7/16; Material of Crank shaft S; Identification Mark on Do. HLOYDS; Material of Thrust shaft S; Identification Mark on Do. HLOYDS; Material of Tunnel shafts S; Identification Marks on Do. W.G.M.; Material of Screw shafts S; Identification Marks on Do. W.G.M.; Material of Steam Pipes Lap welded iron; Test pressure 645 lb.

Is an installation fitted for burning oil fuel? Yes. Is the flash point of the oil to be used over 150°F? No. 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 - Glasgow No. 41853.

General Remarks: (State quality of workmanship, opinions as to class, &c.) These Engines & Boilers have been built under Special Survey in accordance with the approved plans & the workmanship & material are of good quality & they have been tried under steam & found satisfactory. The Machinery is eligible in my opinion for the record of L.M.C. 9.22. Fitted for Low Flash Oil Fuel 9.22.

Note: In Main Pump Room on Discharge side of Cargo Pumps, two oil heaters are fitted & which have been made by the Borden Boiler & Arm Co. Ltd. Glasgow. Heaters tried & stamped as follows:

No. 3043
Dry Oil Fuel
Steam Span 430 lb
Out 300 lb
Working oil pressure 150 lb
W.G.M. 27. 7. 22

No. 3044
Dry Oil Fuel
Steam Span 430 lb
Out 300
Working oil pressure 150 lb
W.G.M. 2. 8. 22

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 9.22. F.D.C.L. "Fitted for Low Flash Oil Fuel" 9.22.

Certificate (if required) to be sent to The Surveyors are requested not to write on or obliterate space for Committee's Minutes.

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

When applied for, 11. 9. 22

When received, 13. 9. 22

Wm Gordon - Muirhead

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 19 SEP 1922

Assigned + L.M.C. 9.22

Fitted for Low Flash Oil Fuel 9.22.

MACHINERY DEPT. WRITTEN 22. 9. 22



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