

REPORT ON MACHINERY.

No. 44193

Received at London Office 10 DEC 1924

Date of writing Report 28th Nov 1924 When handed in at Local Office 1.12.1924 Port of Glasgow

No. in Survey held at Dumbarton Date, First Survey 31st Aug 1920 Last Survey 25th Nov 1924

Reg. Book. on the S.S. "Inverglass" (Number of Visits 59.)

Master Built at Dumbarton By whom built W^m Denny & Bros Ltd Tons { Gross 6901
Net 4296

Engines made at Dumbarton By whom made W^m Denny & Bros Ltd when made 1924

Boilers made at Do By whom made Do when made 1924

Registered Horse Power Owners The British Insurance Corporation Ltd Port belonging to London

Nom. Horse Power as per Section 28 539 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 27"-44"-73" Length of Stroke 48" Revs. per minute 76 Dia. of Screw shaft as per rule 14.84" Material of screw shaft as fitted 15 3/4" 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 light fit If two liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 66" no D.C.

Dia. of Tunnel shaft as per rule 13.3" Dia. of Crank shaft journals as per rule 13.96" Dia. of Crank pin 14 3/4" Size of Crank webs 9" x 28" Dia. of thrust shaft under collars 15" Dia. of screw 18'-0" Pitch of Screw 15'-6" to 17'-6" No. of Blades 4 State whether moveable Yes Total surface 102 sq ft

No. of Feed pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2-WEIRS Sizes of Pumps 7 x 9 1/2" x 24" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 6-3 1/2" 2-4" oil drain In Holds, &c. N°1 hold 3-3 1/2" N°5 hold 3-3 1/2"

tunnel 4-2 1/2" (all pumped by cargo pumps in separate compartment from E.R.)

No. of Bilge Injections 1 sizes 13" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 4"

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

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 Yes Is it fitted with a watertight door Yes worked from top of tunnel recess.

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Steel Co. of Scotland 45B

Total Heating Surface of Boilers 10224 sq ft Forced Draft fitted No No. and Description of Boilers 4-tubular

Working Pressure 180 Tested by hydraulic pressure to 320 Date of test 26-11-23 No. of Certificate 16356

Can each boiler be worked separately Yes Area of fire grate in each boiler Oil fuel No. and Description of Safety Valves to each boiler 2-spring loaded Area of each valve 11" Pressure to which they are adjusted 185" Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 24" Inside dia. of boilers 15'-6" Length 11'-6" Material of shell plates S.

Thickness 1 1/4" Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.

long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 9 3/8" Top of plates or width of butt straps 19 1/2"

Per centages of strength of longitudinal joint rivets 88.3 Working pressure of shell by rules 180 Size of manhole in shell 16" x 12"

Size of compensating ring 36" x 32" x 1 1/4" No. and Description of Furnaces in each boiler 3-Dighton Material S Outside diameter 50 3/16"

Length of plain part top bottom Thickness of plates crown 19 3/32 Description of longitudinal joint welded No. of strengthening rings 23 3/32

Working pressure of furnace by the rules 183 Combustion chamber plates: Material S Thickness: Sides 23 3/32 Back 21 3/32 Top 23 3/32 Bottom 19 3/32

Pitch of stays to ditto: Sides 10 5/8" x 9 1/4" Back 8 1/2" x 8 1/2" Top 10 5/8" x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 182

Material of stays S Area at smallest part 57 W.S. 2-06 Area supported by each stay 98" Working pressure by rules 185 End plates in steam space:

Material S Thickness 1 5/32 Pitch of stays 20 1/2" x 21 3/4" How are stays secured S.N.L.W Working pressure by rules 180 Material of stays S

Area at smallest part 8.27" Area supported by each stay 446" Working pressure by rules 181 Material of Front plates at bottom S

Thickness 3 1/32 Material of Lower back plate S Thickness 1 3/32 Greatest pitch of stays 15" Working pressure of plate by rules 190

Diameter of tubes 2 3/4" Pitch of tubes 4" x 3 1/8" Material of tube plates S Thickness: Front 3 1/32 Back 3 1/4" Mean pitch of stays 6" x 7 3/4"

Pitch across wide water spaces 13 5/8" Working pressures by rules 180 Girders to Chamber tops: Material S Depth and thickness of girder at centre 9 1/4" x 1 3/4" Length as per rule 33 Distance apart 10 5/8" Number and pitch of stays in each 3-8 1/8"

Working pressure by rules 215 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 none 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 DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

✓

SPARE GEAR. State the articles supplied:—

As per Rules, also 1 screw shaft 1 propeller blade etc.

The foregoing is a correct description,

For WILLIAM PENNY & BROTHERS, LTD.

M.K. Wilson.

Director

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1920 Aug 31 Oct 3-15 Nov 29 Dec 27 1921 Jan 14 Feb 2 Mar 4 Apr 1 May 4 Jun 17 Aug 12 Sep 6 Nov 29 1922 Apr 17 25 May 18 21 25 29 Jun 6 12 1923 July 4
{ During erection on board vessel - - } 3.10.31 Aug 10 Sep 4 28 Oct 5 19 26 Nov 6 24 23 27 30 Dec 7 14 21 1924 May 6 Jun 17 30 July 11 Aug 20 Sep 26 Oct 8 15 20 27 28 Nov 24 25
Total No. of visits 59

Is the approved plan of main boiler forwarded herewith

Yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 11-7-24 Slides 11-7-24 Covers 11-7-24 Pistons 11-7-24 Rods 11-7-24

Connecting rods 11-7-24 Crank shaft 7-8-24 Thrust shaft 7-8-24 Tunnel shafts 7-8-24 Screw shaft 7-8-24 Propeller 7-6-24

Stern tube 7-6-24 Steam pipes tested 26-9-24 Engine and boiler seatings 8-10-24 Engines holding down bolts 20-10-24

Completion of pumping arrangements 25-11-24 Boilers fixed 16-10-24 Engines tried under steam 25-11-24

Completion of fitting sea connections 19-9-24 Stern tube 19-9-24 Screw shaft and propeller 19-9-24

Main boiler safety valves adjusted 25-11-24 Thickness of adjusting washers FORE BLR. PORT BLR. CENT. BLR. STAR BLR. P 5/16" S 5/16" P 3/8" S 3/8" P 3/8" S 3/8" P 5/16" S 5/16"

Material of Crank shaft S Identification Mark on Do. A.C. Material of Thrust shaft S Identification Mark on Do. A.C.

Material of Tunnel shafts S Identification Marks on Do. A.C. Material of Screw shafts S Identification Marks on Do. A.C.

Material of Steam Pipes Steel Test pressure 540

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. "Imvigorlon"

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been built under special survey in accordance with the approved plans, and the Society's Rules and requirements, the materials, and workmanship are good, the machinery and boilers have been securely fitted on board, and satisfactorily tried under steam, and in our opinion is eligible for the record + L.M.C. 11-24. with notation fitted for oil fuel flash point above 150°F.

It is submitted that this vessel is eligible for THE RECORD. + LMC 11.24. CL.

Fitted for oil fuel 11.24. FP above 150°F.

CERTIFICATE WRITTEN

The amount of Entry Fee ... £ 6 - -
Special ... £ 101 - 19 -
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :

When applied for,

5/12/24

When received,

29/12/24

Committee's Minute

GLASGOW

9-11-1924

Assigned + LMC 11,24

Fitted for oil fuel 11,24 F.P. above 150°F



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