

REPORT ON MACHINERY.

No. 8114

Received at London Office

MON. 19 MAY. 1919

Date of writing Report 12 May 1919 When handed in at Local Office

19

Port of

Belfast

No. in Survey held at Belfast

Date, First Survey 8 March 1918 Last Survey 8 May 1919

Reg. Book.

(Number of Vessels 47

Gross 6509

on the S.S. Varsity

Net 4015

Master T.W. Major

Built at Belfast

By whom built Harland & Wolff Ltd

When built 1919

Engines made at Belfast

By whom made

when made

Boilers made at

By whom made

when made

Registered Horse Power

Owners Lieut. Brail & River Plate S. M. & Co. Ltd. Liverpool

Nom. Horse Power as per Section 28 578 57

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

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

Dia. of Cylinders 27-44-73 Length of Stroke 48 in. Revs. per minute 79 Dia. of Screw shaft as per rule 14.76 Material of I. Steel

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 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 If two

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 63

Dia. of Tunnel shaft as per rule 13.33 Dia. of Crank shaft journals as per rule 13.9 Dia. of Crank pin 14.3 Size of Crank webs 28x9 Dia. of thrust shaft under

collars 15 Dia. of screw 17-9 Pitch of Screw 16-6 No. of Blades 4 State whether moveable No Total surface 100 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 Lee Suction pumps sheet No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4-3 1/2 + 1-3 In Holds, &c. 8-3 1/2, 2-4 1/2, 1-3, 6-2 1/2

No. of Bilge Injections 1 sizes 13 Connected to condenser, or to circulating pump 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

Are all connections with the sea direct on the skin of the ship Yes Except where 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 Below

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 Fore hold suction How are they protected Iron 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

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper deck

OILERS, &c.—(Letter for record S) Manufacturers of Steel G. Colville & Sons Ltd.

Total Heating Surface of Boilers 7668 sq ft Forced Draft fitted Yes No. and Description of Boilers 3, Single End by link?

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 25-1-19 No. of Certificate 539

Can each boiler be worked separately Yes Area of fire grate in each boiler 63 1/2 sq ft. No. and Description of Safety Valves to

each boiler 2-Direct Spring Area of each valve 9.62 sq Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork about 14 Mean dia. of boilers 15-6 Length 11-6 Material of shell plates Steel

Thickness 1/4 Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seam Lap Double

long. seams Butt Lubricator of rivet holes in long. seams 1/16 Pitch of rivets 9/16 Lap of plates or width of butt straps 19 1/2

Per centages of strength of longitudinal joint rivets 88.1 plate 85.6 Working pressure of shell by rules 182 lbs Size of manhole in shell 16 x 12

Size of compensating ring Plate flange No. and Description of Furnaces in each boiler 3-Deight Material Steel Outside diameter 50 1/2

Length of plain part top 8 Thickness of plates crown 7-19 Description of longitudinal joint Weld No. of strengthening rings

bottom 8 Thickness of plates bottom 7-32 Working pressure of furnace by rules 188 lbs Combustion chamber plates: Material Steel Thickness: Sides 23/32 Back 1/6 Top 23/32 Bottom 3/32

Pitch of stays to ditto: Sides 10 1/8 x 9 1/4 Back 9 1/2 x 8 1/2 Top 10 1/8 x 9 1/4 stays are fitted with nuts or riveted heads Veto Working pressure by rules 180 lbs

Material of stay Steel Area at smallest part 2.19 x 3.48 supported by each stay 98 1/2 Working pressure by rules 186 lbs End plates in steam space:

Material Steel Thickness 1/32 Pitch of stays 21 1/2 x 21 1/2 How are stays secured Veto Working pressure by rules 180 lbs Material of stays Steel

Area at smallest part 8.29 sq area supported by each stay 459 1/2 Working pressure by rules 187 lbs Material of Front plates at bottom Steel

Thickness 3/32 Material of Lower back plate Steel Thickness 27/32 Greatest pitch of stays 13 1/2 Working pressure of plate by rules 189 lbs

Diameter of tubes 2 3/4 Pitch of tubes 4 x 3 3/8 Material of tube plate Steel thickness: Front 3/32 Back 3/4 Mean pitch of stays 2 x 7 3/4

Pitch across wide water spaces 13 1/2 Working pressures by rules 181 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 10 x (8 1/2 x 2) Length as per rule 35 9/16 Distance apart 10 5/8 Number and pitch of stays in each 3-9 1/4

Working pressure by rules 182 lbs 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

12 690-0069

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied: *See other sheet*

The foregoing is a correct description,
For HARLAND & WOLFF Ltd.

J.D. Keay

Manufacturer.

Dates of Survey
while building
Total No. of visits *47*

18th March 1918 to 6th May 1919

Is the approved plan of main boiler forwarded herewith? *No*

Dates of Examination of principal parts—Cylinders *23*—Slides *7*—Covers *16*—Pistons *8*—Rods
Connecting rods *20-3-19* Crank shaft *5-7-18* Thrust shaft *20-3-19* Tunnel shafts *20-3-19* Screw shaft *17-3-19* Propeller *28-2-19*
Stern tube *28-2-19* Steam pipes tested *9-12-18* Engine and boiler seatings *9-4-19* Engines holding down bolts *9-4-19*
Completion of pumping arrangements *26-4-19* Boilers fixed *9-4-18* Engines tried under steam *26-4-19*
Completion of fitting sea connections *25-3-19* Stern tube *18-3-19* Screw shaft and propeller *25-3-19*
Main boiler safety valves adjusted *26-4-19* Thickness of adjusting washers *6-7-18*
Material of Crank shafts *1. Steel* Identification Mark on Do. *LLoyds* Material of Thrust shaft *Do* Identification Mark on Do. *Do*
Material of Tunnel shafts *Do* Identification Marks on Do. *Do* Material of Screw shafts *Do* Identification Marks on Do. *Do*
Material of Steam Pipes *W. Iron* Test pressure *570 lb 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 *"Van Muisel"*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules. The workmanship and the materials, are of good description, and on trial in Belfast Lough, the machinery worked satisfactorily.

In my opinion, it is eligible for record + L.M.C. 5-19. with notation "Forced Draft + Electric Light."

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 5-19. F.D.

Roll 1919

R. J. Beveridge
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee *£45-18-5*
When applied for, *13.5.19*
When received, *19.6.19*
Monkey Boiler Fee *60*
Travelling Expenses (if any) *£*

Committee's Minute *FRI 23 MAY 1919*

Assigned *MC 5-19*
WHITTEN.

Rpt. 9a.

Port of *Belfast*

Continuation of Report No. 8114 dated *12th May 1919* in the

P.D. Vasey

1 Aux^y Feed Pump *9 1/2" x 7" x 18"*
1 General Service *-*
1 Ballast *10 1/2" x 14" x 24"*
1 Fresh Water *3" x 3" x 4"*

Spare Gear, Principal Items

2 Top end + 2 bottom end bolts + nuts
2 Main bearing bolts + nuts
6 Coupling bolts
2 Feed + 2 Biff's pump valves
3 Main + 3 Donkey feed check valves
50 Bolts + nuts assorted

8 Bars iron
1 C.I. propeller

12 Condenser tubes

50 - Ferrules

6 Pin pump valves

2 Piston rod packing rings

2 Valve spindle

200 fuel bars

9 Furnace baffle plates

1 Filter bucket + 50 lbs cane fibre

1 Spare gear circulating pump

Feed

General

Ballast

1 piston rings for engine

12 Boiler tubes plain

1 Feed pump escape valve spring

1 Diaphragm each size reducing valve

1 Valve disc for Main Engine Stop Valve

6 Studs for cylinder covers

6 - Steam chest

6 - each size in Boiler Mountings covers etc

R. J. Beveridge