

REPORT ON MACHINERY

No. 41596

Received at London Office

Date of writing Report 17. 12. 1921 When handed in at Local Office 17. 12. 1921 Port of Glasgow

No. in Survey held at Glasgow
Reg. Book. on the S/S "Beureloch"Date, First Survey 28. 9. 1920 Last Survey 8. 12. 1921
(Number of Visits 50.)

Master Built at Glasgow By whom built B. Bonnell & Co. Ltd.

Tons { Gross 5818
Net 3702
When built 1921

Engines made at Glasgow By whom made Dunsinuir, Jackson & Co. (1921) when made 1921

Boilers made at ditto By whom made ditto (1921) when made 1921

Registered Horse Power Owners Ben Line Steamers Ltd Port belonging to Leith

Nom. Horse Power as per Section 28 600 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Quadruple Expansion

No. of Cylinders 4 No. of Cranks 4

Dia. of Cylinders 24 3/4" - 35 1/2" - 41" - 43" Length of Stroke 51 Revs. per minute 75 Dia. of Screw shaft as per rule 15 1/8" 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 — 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 64"

Dia. of Tunnel shaft as per rule 13 6/8" Dia. of Crank shaft journals as per rule 14 3/8" Dia. of Crank pin 15" Size of Crank webs 29.9 3/4" Dia. of thrust shaft under

collars 14 3/4" Dia. of screw 18.0" Pitch of Screw 18.6" No. of Blades 4 State whether moveable Yes Total surface 106 7

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

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

No. of Donkey Engines 4 Sizes of Pumps 2.9, 8.5 1/2, 7.5 1/2, 10.10" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4. 3 1/2" In Holds, &c. 2. 3 1/2" in each hold. Tunnel Mill 1 - 2 1/2"

No. of Bilge Injections 1 sizes 8" Connected 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 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 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 Bilge Suction How are they protected Good Running

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 W.E.R. Platform

BOILERS, &c.—(Letter for record)

Manufacturers of Steel Beardmore & Steel Co. Ltd. Scotland

Total Heating Surface of Boilers 8781 1/2 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single ended.

Working Pressure 220 Tested by hydraulic pressure to 380 Date of test 2. 9. 21 19. 8. 21 No. of Certificate 15892, 15891, 15896

Can each boiler be worked separately Yes Area of fire grate in each boiler 71 1/2 7 No. and Description of Safety Valves to

each boiler Double Spring Area of each valve 8.29 1/2 Pressure to which they are adjusted 225 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 5.0 Mean dia. of boilers 16. 17 1/6 Length 12.6 Material of shell plates S

Thickness 17 1/6 Range of tensile strength 30 3/4 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR 1

long. seams TR 10 BS Diameter of rivet holes in long. seams 19 1/6 Pitch of rivets 10 5/8 Lay of plates or width of butt straps 1. 11"

Per centages of strength of longitudinal joint rivets 87.2 plate 86.29 Working pressure of shell by rules 220 Size of manhole in shell 16 1/2"

Size of compensating ring 15 1/2 + 33 1/2 + 1 1/2 No. and Description of Furnaces in each boiler 4 Corrugated Material S Outside diameter 43"

Length of plain part top Thickness of plates crown 7 39 1/4 Description of longitudinal joint Weld No. of strengthening rings —

Working pressure of furnace by the rules 225 Combustion chamber plates: Material S Thickness: Sides 3/4 Back 3/4 Top 3/4 Bottom 7/8

Pitch of stays to ditto: Sides 9 5/8 + 9 Back 9 3/4 + 8 3/4 Top 10 + 8 3/8 If stays are fitted with nuts or riveted heads Both Working pressure by rules 221

Material of stays S Area at smallest part 231 1/2 Area supported by each stay 88 1/2 Working pressure by rules 236 End plates in steam space:

Material S Thickness 1 1/3 Pitch of stays 19 1/4 How are stays secured DN Working pressure by rules 225 Material of stays S

Area at smallest part 7.61 1/2 Area supported by each stay 38 1/2 Working pressure by rules 221 Material of Front plates at bottom S

Thickness 1 1/8 Material of Lower back plate S Thickness 1 Greatest pitch of stays 14 3/4 + 9 3/4 Working pressure of plate by rules 221

Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 + 4 3/8 Material of tube plates S Thickness: Front 1 1/8 Back 5/16 Mean pitch of stays 11 1/8

Pitch across wide water spaces 14 1/4 Working pressures by rules 223 Girders to Chamber tops: Material Iron Depth and

thickness of girder at centre 12 x 2 Length as per rule 3. 13 1/8 Distance apart 10 Number and pitch of stays in each 3 at 8 1/2

Working pressure by rules 242 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 21 Expansion

Date of Approval of Plan 21 Ref. attached Tested by Hydraulic Pressure to 660 1/2

Date of Test 21 Ref. attached Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes

Diameter of Safety Valve 2 Pressure to which each is adjusted 230 Is Easing Gear fitted Yes

003233-003239-00074

IS A DONKEY BOILER FITTED?

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 & Budge Pump bolts. 1 Set of Piston Rings. 1 quantity of assorted bolts & nuts. Iron of various sizes.

The foregoing is a correct description,
BUNNELL & JACKSON, Limited.

James Fletcher

Manufacturer.

Dates of Survey while building	{ During progress of work in shops - - During erection on board vessel - - - Total No. of visits	1920 Sep 28 1921 Jan 17 Feb 7 25 Mar 1 3 22 24 Apr 12 18 27 28 May 3 5 26 Jun 1 17 20 23 28 July 5 Aug	Is the approved plan of main boiler forwarded herewith <i>Yes</i> ✓
		1922 11 16 18 22 25 26 29 Sep 2 7 9 12 13 15 20 28 Oct 11 13 14 17 Nov 7 9 14 16 22 24 Dec 2 8.	
		50.	

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 16-8-21 Slides 8-5-21 Covers 16-8-21 Pistons 16-8-21 Rods 16-8-21

Connecting rods 16. 8. 21 Crank shaft 20. 6. 21 Thrust shaft 22. 6. 21 Tunnel shafts 22. 8. 21 Screw shaft 25. 6. 21 Propeller 22. 8. 21

Stern tube 16. 8. 21 Steam pipes tested 7. 11- 21 Engine and boiler seatings 25- 8. 21 Engines holding down bolts 2. 12. 21

Completion of pumping arrangements 2. 12. 21 Boilers fixed 18-10. 21 Engines tried under steam 8. 12. 21

Completion of fitting sea connections 25. 8. 21 Stern tube 25- 8. 21 Screw shaft and propeller 25- 8. 21

Completion of fitting and connections

Main boiler safety valves adjusted 24. 11- 21 Thickness of adjusting washers P 1 1/32 S 1 1/32 P 1 1/32 S 23/64 P 1 1/32 S 3/8 A 3/8 F 3/8

H. J. DODS

Material of Crank shaft \$ Identification Mark on Do. ^{LL005536} PMIG Material of Thrust shaft \$ Identification Mark on Do. ^{536 WGM} LL005536

Material of Tunnel shafts	\$	Identification Marks on Do.	636 WGM	Material of Screw shafts	\$	Identification Marks on Do.	536 PMCG
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Material of Steam Pipes Iron ✓ Test pressure 660 lb. ✓

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 no ✓ If so, state name of vessel _____

General Remarks (State quality of workmanship, opinions as to class, &c. These Engines + Boilers have

General Remarks (State quality of workmanship, specimens etc. etc.)

been built under special authority in accordance

with the approved plan & the membership of


material are of good quality. They have now been

securely lashed on board & fixed under stern &

I could not find a closer

The Maximilian is legally in my opinion for the

the 81st day is 1891 in 1891

record of  L.M.C. 12.21 (1)

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 12.21. FD. CL

MACHINERY CERT.
WRITTEN 29.12.21
(dated 21-12-21)

The amount of Entry Fee ... £ 6 : - : When applied for,
Special ... £ 105 : - : 16. 12. 21.
Donkey Boiler Fee ... £ 4 : 4 : When received,
Travelling Expenses (if any) £ : : 20. 12. 21.

Wm Gordon-Muncliv
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned + LMC 1221

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Foundation