

REPORT ON MACHINERY

No. 44682

27 MAY 1925

Received at London Office

Date of writing Report 19 When handed in at Local Office 22/5/25 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 16.6.24 Last Survey 19.5.1925.
 Reg. Book. on the new steel s/s "BENICIA" (Number of Visits 59) Gross 5060
 Master Built at Port Glasgow By whom built R. Duncan (S/SN-357) Tons Net 3188 When built 1925
 Engines made at Glasgow By whom made W. Rowan & Co Ltd (Nº 803) when made 1925
 Boilers made at Glasgow By whom made W. Rowan & Co Ltd (Nº 803) when made 1925
 Registered Horse Power Owners Oniel Shipping Co. Ltd Port belonging to Liverpool
 John Edgar 16.5)
 Nom. Horse Power as per Section 28 477 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 24"-44"-73" Length of Stroke 48 Revs. per minute 71 Dia. of Screw shaft as per rule 14.7" as fitted 15.5" Material of screw shaft 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 yes If two
 liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 5'-0" No. 04.
 Dia. of Tunnel shaft as per rule 13.33" as fitted 13.3" Dia. of Crank shaft journals as per rule 13.99" as fitted 14" Dia. of Crank pin 14.5" Size of Crank webs 22.5" x 8.5" Dia. of thrust shaft under
 collars 14.5" Dia. of screw 18'-0" Pitch of Screw 18'-0" No. of Blades 4 State whether moveable no Total surface 100 sq ft
 No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4.5" Stroke 24" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 9 & 12 x 12. 8 & 5 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 @ 2.5" & 1 @ 2.5" in dry tank In Holds, &c. No. 1 hold - 2 @ 3" No. 2 hold - 2 @ 3.5"
 Deep tank - 2 @ 2.5" No. 3 hold - 2 @ 2.5" Tunnel well - 1 @ 2.5"
 No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump P. Is a separate Donkey Suction fitted in Engine room & size 1 @ 4.5"
 Are all the bilge suction pipes fitted with roses yes Are the valves 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 platform

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel Maschinenbauwerke, Düsseldorf & Lanarkshire Steel Co
 Total Heating Surface of Boilers 67350 sq ft Is Forced Draft fitted yes No. and Description of Boilers 3 single ended
 Working Pressure 180 lb per sq in Tested by hydraulic pressure to 320 Date of test 26.2.25 No. of Certificate 16740
 Can each boiler be worked separately yes Area of fire grate in each boiler 59 sq ft No. and Description of Safety Valves to
 each boiler two direct spring Area of each valve 8.29 sq in Pressure to which they are adjusted 185 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers on woodwork 15" Mean dia. of boilers 14'-6" Length 11'-6" Material of shell plates Steel
 Thickness 1.3" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams W.R. lap
 long. seams DBS. TR Diameter of rivet holes in long. seams 1.4" Pitch of rivets 8.33" Lap of plates or width of butt straps 18.5"
 Per centages of strength of longitudinal joint rivets 91.5 plate 85.6 Working pressure of shell by rules 181 Size of manhole in shell 19.5" x 15.5"
 Size of compensating ring 9.5" x 1.6" No. and Description of Furnaces in each boiler 3. Deighton Material steel Outside diameter 3'-7.25"
 Length of plain part top — bottom — Thickness of plates crown 1.35" bottom 1.64" Description of longitudinal joint weld No. of strengthening rings none
 Working pressure of furnace by the rules 181 Combustion chamber plates: Material steel Thickness: Sides 2.33" Back 2.1" Top 2.33" Bottom 2.33"
 Pitch of stays to ditto: Sides 10.5" x 9.5" Back 9.5" x 8.5" Top 10.5" x 9.5" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 184
 Material of stays steel Area at smallest part 1.5" x 1.25" Area supported by each stay 80.75 & 99.12 Working pressure by rules 188 & 187 End plates in steam space:
 Material steel Thickness 1.75" Pitch of stays 19.5" x 20" How are stays secured BN Working pressure by rules 180 Material of stays steel
 Area at smallest part 3.82 x 3.4 Area supported by each stay 39.5 & 35.30 Working pressure by rules 199 & 195 Material of Front plates at bottom steel
 Thickness 2.75" Material of Lower back plate steel Thickness 3.4" Greatest pitch of stays 13.75" x 8.5" Working pressure of plate by rules 181
 Diameter of tubes 2.5" Pitch of tubes 3.33" x 3.5" Material of tube plates steel Thickness: Front 2.75" Back 2.33" Mean pitch of stays 10.125"
 Pitch across wide water spaces 13.5" Working pressures by rules F20S. B 180 Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 2 @ 8" x 8" Length as per rule 33.125" Distance apart 9.5" Number and pitch of stays in each 2 @ 10.5"
 Working pressure by rules 191 Steam dome: description of joint to shell none % 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 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

010056 - 010066 - 0373

IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? —

SPARE GEAR. State the articles supplied:—

As per Rules and in addition, one screw shaft and one propeller

The foregoing is a correct description,

For David Rowan & Co Ltd
Archd. W. Grierson

Manufacturer.

Dates of Survey while building { During progress of work in shops — 1924. Jun 16. July 9. 10. 15. 30. Aug 4. 11. 12. 22. 27. Sep 15. 10. 12. 23. 19. Oct 7. 9. 21. Nov 5. 12. 26. Dec 25. 12. 19.
During erection on board vessel — 1925. Jan 12. 13. 19. 20. 23. 26. 27. Feb 2. 3. 9. 10. 13. 26. Mar 2. 3. 4. 13. 16. 19. 20. 31. Apr 1. 6. 14. 15. 16. 20. 21. 22. 25.
Total No. of visits 59

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " " —

Dates of Examination of principal parts—Cylinders 26-11-24 Slides 26-1-25 Covers 12-12-24 Pistons 19-1-25 Rods 3-3-25
Connecting rods 5-12-24 Crank shaft 9-2-25 Thrust shaft 16-3-25 Tunnel shafts 10-2-25 Screw shaft 4-3-25 Propeller 23-1-25
Stern tube 23-1-25 Steam pipes tested 31-3-25 Engine and boiler seatings 1-4-25 Engines holding down bolts 27-1-25
Completion of pumping arrangements 23-4-25 Boilers fixed 16-4-25 Engines tried under steam 19-5-25
Completion of fitting sea connections — Stern tube — Screw shaft and propeller 23-4-25
Main boiler safety valves adjusted 25-4-25 Thickness of adjusting washers all 3/8"

Material of Crank shaft I. Steel Identification Mark on Do. LLOYDS NO 7150 L.C.D. 9-2-25 Material of Thrust shaft I. Steel Identification Mark on Do. LLOYDS NO 7171 L.C.D. 16-3-25
Material of Tunnel shafts I. Steel Identification Marks on Do. LLOYDS NO 8003 L.C.D. 10-2-25 Material of Screw shafts I. Steel Identification Marks on Do. LLOYDS NO 1050 L.C.D. 4-3-25
Material of Steam Pipes Lap welded wrought iron Test pressure 540 lbs. mark on Span shaft LLOYDS NO 1050 L.C.D. 20-4-25

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 "Saint Oswald"

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

The materials and workmanship are good.

The machinery has been constructed under special Survey in accordance with the Rules, properly fitted on board, tried under steam and found good. It is eligible in my opinion for classification and the record + LMC 5, 25.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 5. 25. FD. CL.

The amount of Entry Fee ... £ 5 :
Special ... £ 96 : 11 :
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :
When applied for, 22/5/25
When received, 22/5/25

S. C. Davis.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 26 MAY 1925

Assigned + LMC 525



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Foundation