

REPORT ON MACHINERY.

No. 44228

Received at London Office

Date of writing Report 15 Jan 25 When handed in at Local Office 17.1.25 Port of Glasgow
 No. in Survey held at Clydebank Date, First Survey 9.4.23. Last Survey 13 Jan 1925
 Reg. Book. on the steel twin screw "Oronsay" (Number of Visits 136)
 Tons { Gross 20001
 Net 11441
 Master Built at Clydebank By whom built John Brown & Co. Ltd. When built 1925
 Engines made at Clydebank. By whom made John Brown & Co. Ltd. when made 1925
 Boilers made at Clydebank. By whom made John Brown & Co. Ltd. when made 1925
 Registered Horse Power 3811 3811 Owners Orient S. N. Co. Ltd. Port belonging to Glasgow
 Shaft Horse Power at Full Power 18000 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

URBINE ENGINES, &c.—Description of Engines S. R. turbines geared to 25.5% No. of Turbines 2 H.P. 2 L.P. 2 A.P.
 Diameter of Rotor Shaft Journals, H.P. 6 1/4" 1 P 7 1/2" L.P. 9 1/2" Diameter of Pinion Shaft
 Diameter of Journals Pinions 9" Distance between Centres of Bearings 37 3/4" Diameter of Pitch Circle 10.2784"
 Diameter of Wheel Shaft 22" Distance between Centres of Bearings 98 1/2" Diameter of Pitch Circle of Wheel 173.8457"
 Width of Face 50" Diameter of Thrust Shaft under Collars 20 1/2" 19.5" Diameter of Tunnel Shaft as per rule 18.6"
 No. of Screw Shafts 2 Diameter of same as per rule 20.35" as fitted 21" Diameter of Propeller 21.0" Pitch of Propeller 22.3"
 No. of Blades 4 State whether Moveable Yes Total Surface 135.34 Diameter of Rotor Drum, H.P. L.P. Astern
 Thickness at Bottom of Groove, H.P. L.P. Astern Revs. per Minute at Full Power, Turbine 1520 Propeller 90

ARTICULARS OF BLADING.

	H. P.			L. P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION									
2ND									
3RD									
4TH									
5TH									
6TH									
7TH									
8TH									

No. and size of Feed pumps 1-turbo pump 270,000 lbs/hr, 1-ditto 200,000 lbs/hr, 1-D.A. pump 14"x9 1/2"x26", 1-D.A. 10 1/2"x8"x22"
 No. and size of Bilge pumps 2-in E.R. 60 tons each, 2-in B.R. Room, 160 tons, 1-in REF. ROOM, 160 tons
 No. and size of Bilge suction in Engine Room T.B.R. 2.3 1/2", 4.4", 4.3" oil filge, 2.7" In Holds, &c. 9.3 1/2"

No. of Bilge Injections 2 sizes 22" Connected to condenser or circulating pump Yes Is a separate Donkey Suction fitted in Engine Room & size 3.5 1/2"x6"x7"
 Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes
 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 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 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 Bridge

OILERS, &c.—(Letter for record S.) Manufacturers of Steel D. Colville & Sons Ltd.
 Total Heating Surface of Boilers 49224 sq. ft. Forced Draft fitted Yes No. and Description of Boilers 6 D.E. multitubular
 Working Pressure 215 Tested by hydraulic pressure to 372. Date of test 29.11.23, 7.12.23, 12.12.23 No. of Certificate 16319, 16329, 16344, 16378, 16384, 16388, 16394, 16403
 Can each boiler be worked separately Yes Area of fire grate in each boiler 8.29 sq. ft. No. and Description of Safety Valves 4 S.E. 16319, 16329, 16344, 16378, 16384, 16388, 16394, 16403
 Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers 16.1" Length 21.72" Material of shell plates S.
 Thickness 1 1/32" Range of tensile strength 30-34 Are the shell plates welded or flanged No Description of riveting: riv. seams T.R. & T.R.
 long. seams T.R. & B.S. Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10 1/8" Lap of plates or width of butt straps 21 1/8"
 rivets 85.4
 Per centages of strength of longitudinal joint plates 85.18 Working pressure of shell by rules 223 Size of manhole in shell 16"x12"

Size of compensating ring 38"x34 1/2"x1 1/2" No. and Description of Furnaces in each Boiler 6 Deighton Material S Outside diameter 46 3/8"
 Length of plain part top crown 1 1/16" Description of longitudinal joint welded No. of strengthening rings none
 bottom bottom
 Working pressure of furnace by the rules 227 Combustion chamber plates: Material S Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 55/64
 Pitch of stays to ditto: Sides 10 3/8"x8 3/4" Back 9 1/4"x9" Top 10"x8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 220
 Material of stays S Diameter at smallest part 1 3/4" Area supported by each stay 82.5" Working pressure by rules 222 End plates in steam space
 Material S Thickness 1 3/32" Pitch of stays 17"x17" How are stays secured T.N. Working pressure by rules 216 Material of stays S.
 Diameter at smallest part 2 1/16" Area supported by each stay 289" Working pressure by rules 230 Material of Front plates at bottom S
 Thickness 7/8" Material of Lower back plate S Thickness Greatest pitch of stays Working pressure of plate by rules
 Diameter of tubes 2 1/2" Pitch of tubes 3 1/4"x3 3/4" Material of tube plates S Thickness: Front 7/8" Back 7/8" Mean pitch of stays 9 3/8"
 Pitch across wide water spaces 13 1/2" Working pressures by rules 219 Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 8"x1 1/2" Length as per rule 30" Distance apart 8 1/4" Number and pitch of stays in each 2-10"x8 1/4"
 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 Diameter 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 _____
IS A DONKEY BOILER FITTED? *Two* ✓ If so, is a report now forwarded? _____
SPARE GEAR. State the articles supplied:— *As per Rules, and attached list.*

John Brown & Company, Limited.
The foregoing is a correct description,

J. Henderson
Manufacturers
Clydebank Secretary.

1923: APR. 9. 24. MAY. 14. 24. JUN. 4. 7. 18. 28. JULY 2. 6. 24. AUG. 2. 7. 15. 20. 30. SEP. 7. 13. 19. 25. 26. 27. 28. OCT. 1. 10. 21. 25.
1924: JAN. 18. 19. 21. 28. FEB. 5. 7. 15. 21. 28. MAR. 14. 18. 24. 27. 31. APR. 3. 7. 10. 14. 17. 25. MAY 5. 12. 16. 19. 22. 27. 29. JUN. 2. 6. 9. 13. 16.
1925: JAN. 5. 12. 13. FEB. 5. 7. 15. 21. 28. MAR. 14. 18. 24. 27. 31. APR. 3. 7. 10. 14. 17. 25. MAY 5. 12. 16. 19. 22. 27. 29. JUN. 2. 6. 9. 13. 16.
Total No. of visits *136*

Dates of Examination of principal parts—Casings *28/4/24 6/6/24* Rotors *17/4/24 16/29/5/24* Blading *17/4/24 6/29/5/24* Gearing *26/4/24 6/4*
Rotor shaft *8/5/24 4/9/24* Thrust shaft *16/5/24* Tunnel shafts *16/5/24* Screw shaft *31/7/24* Propeller *31/7/24*
Stern tube *19/6/24* Steam pipes tested *26.9.24* Engine and boiler seatings *25/8/24* Engines holding down bolts *16.10.24*
Completion of pumping arrangements *24.12.24* Boilers fixed *22.9.24* Engines tried under steam *13.1.25*
Main boiler safety valves adjusted *24.12.24* Thickness of adjusting washers *FOR BLR ROOM A 3/2 3/8 B 3/2 3/8 C 3/2 3/8 D 3/2 3/8 E 3/2 3/8*
Material and tensile strength of Rotor shaft *8. 34 16 39* Identification Mark on Do. *1961-2-3-4 1984*
Material and tensile strength of Pinion shaft *8. 41 10 44* Identification Mark on Do. *2000-2-3 2016*
Material of Wheel shaft *8* Identification Mark on Do. *2104.3351* Material of Thrust shaft *8* Identification Mark on Do. *2129-38 2237*
Material of Tunnel shafts *8* Identification Marks on Do. *2956.2941* Material of Screw shafts *8* Identification Marks on Do. *2692*
Material of Steam Pipes *8* Identification Marks on Do. *3068.3146.3085.3127.2540.3223.2974.3228* Test pressure *645*
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 a duplicate of a previous case *No* If so, state name of vessel *No*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery and boilers of this vessel have 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. 1-25, and notation fitted for oil fuel F.P. above 150°F. (Screw shafts fitted with cont. liners)*

The amount of Entry Fee ... £ *6* When applied for, *21.1.1925*
Special ... £ *195-6-6*
Donkey Boiler Fee ... £
Travelling Expenses (if any) £
Committee's Minute *GLASGOW 27 JAN 1925*
Assigned *+ LMC 1.25 FD*
Fitted for oil fuel 125 F.P. above 150°F.

Jas. Cairns
Engineer Surveyor to Lloyd's Register of Shipping.

CERTIFICATE WRITTEN
28/1/25
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Foundation