

# REPORT ON MACHINERY.

No. 8354

Received at London Office

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of writing Report March 14 1922 When handed in at Local Office March 14 1922 Port of DUNDEE.  
 in Survey held at huntsre. Date, First Survey Dec. 1<sup>st</sup> 1920, Last Survey March 8<sup>th</sup> 1922.  
 Book. on the S.S. "MANXSONA" (Number of Volls 18)  
 ster Built at huntsre, By whom built Crocker Construction Co. Ltd Tons { Gross  
 when made  
 rines made at St. Yarmouth. By whom made Wm. Russell & Co. when made  
 ilters made at Hockton. By whom made Riley Bros. Ltd. when made  
 istered Horse Power Owners The Harland & Wolff & Co. Ltd Port belonging to Ramsay  
 n. Horse Power as per Section 28 44.4. Is Refrigerating Machinery fitted for cargo purposes ho Is Electric Light fitted ho

**INES, &c.—Description of Engines** Triple Expansion No. of Cylinders 3 No. of Cranks 3  
 of Cylinders 10" x 16 1/2" x 26 1/2" Length of Stroke 18" Revs. per minute 140. Dia. of Screw shaft as per rule 5.5 Material of screw shaft as fitted 6 1/8"  
 e screw shaft fitted with a continuous liner the whole length of the stern Yes Is the after end of the liner made water tight  
 e propeller boss Yes If the liner is in more than one length are the joints butted Yes If the liner does not fit tightly at the part  
 en the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive If two  
 s are fitted, is the shaft lapped or protected between the liners Length of stern bush 2' 1"  
 of Tunnel shaft as per rule 4.9 Dia. of Crank shaft journals as per rule 5 1/4" Dia. of Crank pin Size of Crank webs Dia. of thrust shaft under  
 rs Dia. of screw Pitch of Screw No. of Blades State whether moveable Total surface  
 of Feeds 4 Diameter of ditto Stroke Can one be overhauled while the other is at work  
 t Bilge pumps Diameter of ditto Stroke Can one be overhauled while the other is at work  
 of Donkey Engines 1. Sizes of Pumps 5 1/4" x 3 1/2" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room & Bilge Room, 3 @ 2" In Holds, &c. 2 @ 2" in Hold. 1 @ 2" 7 ft.  
 f Bilge Injections One sizes 3" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 2"  
 ll 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 Yes  
 ll connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both  
 hey 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  
 hey 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  
 pipes are carried through the bunkers Yes How are they protected Yes  
 all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes  
 he Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes  
 e Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Yes

**ERS, &c.—(Letter for record)** Manufacturers of Steel  
 Heating Surface of Boilers 852 sq ft Is Forced Draft fitted ho No. and Description of Boilers one single ended.  
 king Pressure 180 lbs Tested by hydraulic pressure to Date of test No. of Certificate  
 each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to  
 boiler Area of each valve Pressure to which they are adjusted 180 lbs Are they fitted with easing gear Yes  
 lest distance between boilers as upstays and bunkers or woodwork 1/2" Mean dia. of boilers Length Material of shell plates  
 ness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams  
 seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps  
 entages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell  
 f compensating ring No. and Description of Furnaces in each boiler Material Outside diameter  
 h of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings  
 bottom Thickness of plates bottom Working pressure of shell by rules Back Top Bottom  
 ing pressure of furnace by the rules Combustion chamber plates: Material Thickness: plates Working pressure by rules End plates in steam space:  
 of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules  
 rial of stays Area at smallest part Area supported by each stay Working pressure by rules Material of stays  
 rial Thickness Pitch of stays How are stays secured Working pressure by rules Material of Front plates at bottom  
 at smallest part Area supported by each stay Working pressure by rules Working pressure of plate by rules  
 ness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules  
 ter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays  
 across wide water spaces Working pressure by rules Girders to Chamber tops: Material Depth and  
 ess of girder at centre Yes Length as per rule Distance apart Number and pitch of stays in each  
 ing pressure by rules Steam dome: description of joint to shell % of strength of joint  
 ter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes  
 of rivets Working pressure of shell by rules Crown plates Thickness How stayed  
**ERHEATER.** 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?

20

If so, is a report now forwarded?

✓

SPARE GEAR. State the articles supplied:—Two top end bolts & nuts, Two bottom end bolts & nuts, Two main bearing bolts & nuts. Set of coupling bolts. Spare valves for air, circulating, feed & bilge pumps. Assorted bolts & nuts in various sizes. ✓

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1910 DEC. 1. 10. 20. 1921 JAN. 13. 21. FEB. 14. MAR. 15. JUNE 9. JULY 6. 15. 16. SEP. 24. OCT. 22. D. During erection on board vessel -- 1922 JAN. 25. MARCH. 1. 8. Total No. of visits 18.

Is the approved plan of main boiler forwarded herewith

✓

" " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders ✓ Slides ✓ Covers ✓ Pistons ✓ Rods ✓

Connecting rods ✓ Crank shaft ✓ Thrust shaft ✓ Tunnel shafts 20/12/20 Screw shaft ✓ Propeller 21/12/20

Stern tube 20.12.20 Steam pipes tested 28.6.21. Engine and boiler seatings 3.12.20. Engines holding down bolts 15.3.21

Completion of pumping arrangements 21.12.22 Boilers fixed 17.2.21. Engines tried under steam 25.1.22.

Completion of fitting sea connections 21.1.21. Stern tube 21.1.21. Screw shaft and propeller 21.1.21

Main boiler safety valves adjusted 21.12.22 Thickness of adjusting washers S. 29/64 P. 15/32

Material of Crank shaft ✓ Identification Mark on Do. ✓ Material of Thrust shaft ✓ Identification Mark on Do. ✓

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts ✓ Identification Marks on Do. ✓

Material of Steam Pipes S.D. Copper 2 3/4" Bore & 9 lbs. Test pressure 360 lbs sq. in.

Is an installation fitted for burning oil fuel 20. 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 20 If so, state name of vessel ✓

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

The engines & boiler of this vessel have been satisfactorily fitted on board under special survey, examined under working condition and found in good order.

The machinery is eligible in my opinion to be classed  
+ L.M.C. 3.22.

For full particulars, please see the following reports, now enclosed:—  
Main Engines - Spawick No 83439.  
Boiler - Middlesbrough - 10291.

It is submitted that  
this vessel is eligible for  
THE RECORD.

+ L.M.C. - 3.22.

27/3/22.

The amount of Entry Fee ... £ : : When applied for, 1/5 Special ... £ 3 : 0 : 14/3/1922  
Donkey Boiler Fee ... £ : : When received, 11/5/22  
Travelling Expenses (if any) £ 3 : 16 : 9

John H. Mackenzie  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

TUE MAR 28 1922

Assigned

+ L.M.C. 3.22

MACHINERY QEST/  
WRITTEN.



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Foundation