

Rpt. 4.

# REPORT ON MACHINERY

No. 76296

Received at London Office FRI. JAN. 5 1923

Date of writing Report

When handed in at Local Office

4/11 23 Port of

NEWCASTLE-ON-TYNE

No. in Survey held at SUNDERLAND-WALKER-ON-TYNE

Date, First Survey 3<sup>rd</sup> March 1920. Last Survey 29<sup>th</sup> Dec 1922

Reg. Book. on the STEEL SCREW STEAMER RALLUS s/s 1167

Master Built at SUNDERLAND By whom built SWAN, HUNTER, WIGHAM, RICHARDSON & CO. LTD. When built 1922-5

Engines made at WALKER-ON-TYNE By whom made SWAN HUNTER, WIGHAM, RICHARDSON & CO. LTD. when made 1922-5

Boilers made at WALKER-ON-TYNE By whom made SWAN HUNTER, WIGHAM, RICHARDSON & CO. LTD. when made 1922-5

Registered Horse Power ? Owners CORK S/S CO. LTD. Port belonging to

Nom. Horse Power as per Section 28 318 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES

## ENGINES, &c.—Description of Engines TRIPLE EXPANSION

Dia. of Cylinders 20 1/2 - 34 - 56 Length of Stroke 42 Revs. per minute No. of Cylinders 3 No. of Cranks 3  
Rule = 11.95 as per rule 11.45 Material of screw shaft STEEL  
Dia. of screw shaft as fitted 12 3/8

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 49 1/2"  
Dia. of Tunnel shaft as per rule 10.65 Dia. of Crank shaft journals as per rule 11.21 Dia. of Crank pin 1 1/4 Size of Crank webs Dia. of thrust shaft under  
collars 1 1/2 Dia. of screw 14.6 Pitch of Screw 15-6 No. of Blades 4 State whether moceable NO Total surface 705

No. of Feed pumps 2 Diameter of ditto 3 1/4 Stroke 22 Can one be overhauled while the other is at work YES  
No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 22 Can one be overhauled while the other is at work YES  
No. of Donkey Engines 3 Sizes of Pumps DUPLEX LAMONT BALLAST 8x9x8 No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room DUPLEX BOILER AUXILIARY FEED PUMP 4 1/2 x 3 x 6 In Holds, &c. NO 1. H. 2 OF 2 3/4 - NO 2. H. 2 OF 2 3/4  
NO 3. H. 2 OF 2 3/4 NO 4. H. 2 OF 2 3/4 DIA

No. of Bilge Injections 1 sizes 4" Connected to circulating pump CP Is a separate Donkey Suction fitted in Engine room & size YES, 3  
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 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 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 J. SPENCER & CO. LTD.  
Total Heating Surface of Boilers 5000 Is Forced Draft fitted YES No. and Description of Boilers 3. SE. CYL. MULTITUBULAR.  
Working Pressure 180 LBS Tested by hydraulic pressure to 360 LBS Date of test 6.9.21 No. of Certificate 9597  
Can each boiler be worked separately YES Area of fire grate in each boiler 42 5/8 No. and Description of Safety Valves to  
each boiler TWO DIRECT SPRINK Area of each valve 7.06 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 18" Mean dia. of boilers 12-6" Length 11-6" Material of shell plates STEEL  
Thickness 31/32 Range of tensile strength 29 3/4 to 34 TONS Are the shell plates welded or flanged NO Descrip. of riveting: cir. seams DR. LAP  
long. seams DB. STRAPS TRIVITED Diameter of rivet holes in long. seams 1 Pitch of rivets 7-3 1/2 Lap of plates or width of butt straps 15"  
Per centages of strength of longitudinal joint rivet 86.1% Working pressure of shell by rules 182 LBS Size of manhole in shell 16x12  
FLANGED Size of compensating ring 3-2 7/8 x 2-10 5/8 No. and Description of Furnaces in each boiler 2. DEIGHTONS CORRUGATED Material STEEL Outside diameter 47 7/8  
Length of plain part top 7-10 1/2 bottom 7-10 1/2 Thickness of plates crown 9/16 Description of longitudinal joint WELD No. of strengthening rings NONE  
Working pressure of furnace by the rules 183 LBS Combustion chamber plates: Material STEEL Thickness: Sides 3/32 Back 3/32 Top 3/32 Bottom 3/32  
Pitch of stays to ditto: Sides 9x8 1/2 Back 8 3/4 x 8 1/4 Top 9x8 1/2 If stays are fitted with nuts or riveted heads NUTS Working pressure by rules 194 LBS  
Material of stays STEEL Area at smallest part 2.03 Area supported by each stay 76.7 Working pressure by rules 239 LBS End plates in steam space:  
Material STEEL Thickness 1 1/2 Pitch of stays 18x14 How are stays secured D.N.W. Working pressure by rules 183 LBS Material of stays STEEL  
Area at smallest part 4.57 Area supported by each stay 252 Working pressure by rules 188 LBS Material of Front plates at bottom STEEL  
Thickness 29/32 Material of Lower back plate STEEL Thickness 1 Greatest pitch of stays 13 1/2 Working pressure of plate by rules 268 LBS  
Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 x 3 3/4 Material of tube plates STEEL Thickness: Front 29/32 Back 3/4 Mean pitch of stays 9 3/8  
Pitch across wide water spaces 13 1/2 Working pressures by rules 184-229 Girders to Chamber tops: Material STEEL Depth and  
thickness of girder at centre 9 1/8 x 1 1/4 Length as per rule 30 1/2 Distance apart 9 Number and pitch of stays in each TWO OF 8 1/2 - P  
Working pressure by rules 182 LBS 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

Is Report also sent on file of the Survey

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01110-01119-0178

IS A DONKEY BOILER FITTED? **NO**

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - *Two top End bolts and nuts, two bottom End bolts and nuts, two main bearing bolts and nuts, spare Coupling bolts and nuts, spare Fed and bilge pump valves, Assorted iron bolts and nuts, and Various Engine Room stores - 56 main boiler tubes, 1 spare propeller, 1 piston Rod gland bush and neck ring, 1 Slide Rod gland bush and neck ring, 6 junk Ring bolts - 56 main Boiler Tubes -*

The foregoing is a correct description.

SWAN, HUNTER & WIGHAM RICHARDSON, LTD.

*[Signature]*

Manufacturer.

Dates of Survey while building: 1920. March 3, April 28, May 5, July 26, 27, Aug. 1, 11, 18, 23, 26, 27, Sept. 1, 12, Oct. 29, Nov. 30, Dec. 2, 6, 8, 1921. Jan. 14, Feb. 1, 3, 15, 16, 21, 1922. Feb. 2, 8, 10, 21, 22, 23, 24, Mar. 2, 9, 13, 14, 15, 16, 21, 23, 24, 30, April 4, 8, 12, 13, 26, 27, 28, May 5, 12, 19, June 1, Aug. 3, Dec. 28, 29.

HP. CYL. TBSTED. WP. 225 LBS.

Dates of Examination of principal parts: Cylinders 16.3.22, Slides 16.3.22, Covers 15.3.22, Pistons 16.3.22, Rods 16.3.22, Connecting rods 16.3.22, Crank shaft 23.3.22, Thrust shaft 6.4.22, Tunnel shafts 6.4.22, Screw shaft 23.3.22, Propeller 14.3.22, Stern tube fitted. Sld, Steam pipes tested 7.4.22, Engine and boiler seatings 14.3.22, Engines holding down bolts 12.4.22, Completion of pumping arrangements 19.5.22, Boilers fixed 28.4.22/16.3.22, Engines tried under steam 28/4/22, Completion of fitting sea connections fitted. Sld, Stern tube fitted. Sld, Screw shaft and propeller 16.3.22, Main boiler safety valves adjusted 28.4.22, Thickness of adjusting washers ST. B. P 3/16 - 5/16, PT. B. P 5/32 - 13/32, LLOYDS. WC/ LGS - 23.3.22, C. B. P 1/2 - 5/4, LLOYDS. LGS - 23/3/22, Material of Crank shaft steel, Identification Mark on Do. 5284-N, Material of Thrust shaft steel, Identification Mark on Do. 3576-D-MR, Material of Tunnel shafts steel, Identification Marks on Do. 5165-D-MR, Material of Screw shafts steel, Identification Marks on Do. 5765-D-MR, LGS. 23.3.22, Material of Steam Pipes steel, Test pressure 540 lb. TESTED - AT - SHAW & WARR.

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, If so, state name of vessel *Sister vessels - s/s Kittiwake, Merganser*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery built under special survey the material and workmanship found good and efficient.*

*The Engines and Boilers, auxiliary machinery, fitted up on board the vessel, tested under steam. main engines working ahead and astern (vessel at moorings) and found satisfactory.*

*In my opinion the vessel is now eligible for the notification of + L.M.C. - 22 to be made in the Register Book - Propeller outside factory examined in dry dock, satisfactory. 28/12/22 29. December. 1922. Attended. Sea trials. The machinery working satisfactory and now eligible for the record of + L.M.C. 12.22.*

**It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 12.22. F.D. C.L.**

The amount of Entry Fee ... £ 5 : 0 : 0 When applied for, Special ... £ 72 : 14 : 0 3/1/23, Donkey Boiler Fee ... £ : : : When received, Travelling Expenses (if any) £ : : : 8/1/23

*[Signature]* L. G. Shallcross, Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. JAN. 9 1923, Assigned + dmb 12.22, J.D., L.



NEWCASTLE-ON-TYNE.

Certificate (if required) to be sent to. The Surveyors are requested not to write on or below the space for Committee's Minute.

REPLICATE WRITTEN