

## REPORT ON MACHINERY.

No. 75245

Received at London Office

21 1922

Date of writing Report

19

When handed in at Local Office

4.2.1922 Port of

NEWCASTLE-ON-TYNE.

No. in Survey held at Newcastle.

Date, First Survey 5<sup>th</sup> Aug. 1920 Last Survey 25<sup>th</sup> Jan 1922

Reg. Book.

3420 on the Sheet No. MIRLO

Tons Gross 7300

Net 4550

Master

Built at Newcastle

By whom built Armstrong Whitworth &amp; Co. Ltd.

When built 1921

Engines made at Newcastle

By whom made Armstrong Whitworth &amp; Co. Ltd.

when made 1922

Boilers made at Newcastle

By whom made Armstrong Whitworth &amp; Co. Ltd.

when made 1922

Registered Horse Power

Owners W. Wilhelmssen

Port belonging to Tonsberg

Nom. Horse Power as per Section 28 574

Is Refrigerating Machinery fitted for cargo purposes No.

Is Electric Light fitted Yes

ENGINES, &amp;c.—Description of Engines

Triple Expansion Inverted

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 28" 46" 77"

Length of Stroke 51"

Revs. per minute 70

Dia. of Screw shaft

as per rule 15.37" Material of Steel

as fitted 16" screw shaft

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 69.25"

Dia. of Tunnel shaft as per rule 13.97

Dia. of Crank shaft journals as per rule 14.67

as fitted 15.25"

Dia. of Crank pin 15.25"

Size of Crank webs 9 1/2" x 22"

Dia. of thrust shaft under

collars 15.25"

Dia. of screw 18.3"

Pitch of Screw 17.6"

No. of Blades 4

State whether moveable No.

Total surface 108 sq

No. of Feed pumps 2

Diameter of ditto 8"

Stroke 21

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 4 1/2"

Stroke 25 1/4"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2

Sizes of Pumps 9" x 21" 3" x 12" 12" x 12"

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 14.5" 3 1/2"; Dry Tank 3 1/2"; aft well 3 1/2"

In Holds, &amp;c. none.

No. of Bilge Injections 1

sizes 9 1/2"

Connected to condenser, or to circulating pump pumps

Is a separate Donkey Suction fitted in Engine room &amp; 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 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 none

Is it fitted with a watertight door

BOILERS, &amp;c.—(Letter for record S)

Manufacturers of Steel J. Spence &amp; Son Ltd.

Total Heating Surface of Boilers 8331 sq

Is Forced Draft fitted Yes

Working Pressure 180 lbs

Tested by hydraulic pressure to 360 lbs

Can each boiler be worked separately Yes

Area of fire grate in each boiler 68 sq

each boiler 2 in Spring loaded

Area of each valve 11.04 sq

Smallest distance between boilers or uptakes and bunkers 20"

Mean dia. of boilers 15.9"

Thickness 1 3/16"

Range of tensile strength 30/34 ton

long. seams T.R.O. D.B.S.

Diameter of rivet holes in long. seams 1 1/4"

Per centages of strength of longitudinal joint

rivets 87.8

Size of compensating ring Flanged

No. and Description of Furnaces in each boiler 3 maison

Length of plain part top

Thickness of plates crown

Working pressure of furnace by the rules 181

Combustion chamber plates: Material Steel

Pitch of stays to ditto: Sides 10" x 8"

Back 9 1/2" x 8 1/2"

Material of stays Steel

Area at smallest part 2.030"

Material Steel

Thickness 1 3/16"

Area at smallest part 6.10"

Area supported by each stay 323.0"

Thickness 2 3/8"

Material of Lower back plate Steel

Diameter of tubes 2 1/2"

Pitch of tubes 3 3/4"

Pitch across wide water spaces 14 1/2"

Working pressures by rules 185

thickness of girder at centre 8 7/8" x 1 1/4"

Length as per rule 36"

Working pressure by rules 185

Steam dome: description of joint to shell none

Diameter

Thickness of shell plates

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

SUPERHEATER. Type

Date of Approval of Plan

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

Tested by Hydraulic Pressure to


Is Easing Gear fitted

Lloyd's Register

Foundation



IS A DONKEY BOILER FITTED? *No.*

*If so, is a report now forwarded?* 

Rpt. 13.

SPARE GEAR. State the articles supplied:— 1 C.I. propeller, 1 screw shaft with continuous liner, 2 Bottom End Bolts + nuts  
1 pair crank pin braces, 1 pair crosshead braces, set of link braces, 2 piston rod bolts + nuts, 1 valve spindle, 2 main  
bearing Bolts + nuts, 1 Eccentric Strap complete, 1 set Coupling Bolts + nuts, 2 sets feed + bilge pump valves, 1 set feed +  
bilge pump valve seats, 12 piston bolts, 2 check valves, 12 Boiler tubes, one pair safety valve springs, 36 Condenser tubes  
100 ferrules, assorted Bolts, nuts + washers + iron.

*The foregoing is a correct description,*

FOR  
SIR W. G. ARMSTRONG, WHITWORTH & CO. LIMITED.

*Manufacturer.*

Dates of Survey while building	{ During progress of work in shops - - During erection on board vessel - - Total No. of visits	1920 Aug. 5. 17. 22 Oct. 11 Nov. 3. 5.	1921 Jan. 4. 10. 17. 19. April 19. 30. Jun. 15. 17. 29. 30. Aug. 19. Sep. 1. 12. 16. 29. Oct. 3. 6. 7. 10. 19. 20.
		21. 27. 28. Nov. 9. 11. 15. 17. 18. 21. 23. 24. 25. 28. 29. 30. Dec. 2. 5. 6. 7. 9. 14. 17. 19. 20.	1922 Jan. 4. 5. 13. 15. 16. 17. 18. 19. 24. 25.
		61.	
		Is the approved plan of main boiler forwarded herewith	

*Is the approved plan of main boiler forwarded herewith*

“ “ “ *donkey* “ “

Dates of Examination of principal parts—Cylinders 21.10.21 Slides 7.12.21 Covers 7.12.21 Pistons 7.12.21 Rods 7.12.21

Connecting rods 19.10.21 Crank shaft 19.10.21 Thrust shaft 24.11.21 Tunnel shafts ✓ Screw shaft 9.11.21 Propeller 2.12.21

Stern tube 9.11.21 Steam pipes tested 19.1.22 Engine and boiler seatings 7.12.21 Engines holding down bolts 4.1.22

Completion of pumping arrangements 24.1.22 Boilers fixed 19.12.21 Engines tried under steam 24.1.22

Completion of fitting sea connections 25.11.21 Stern tube 25.11.21 Screw shaft and propeller 7.12.21

Main boiler safety valves adjusted 24.1.22 Thickness of adjusting washers 70<sup>3</sup> Bl F  $\frac{1}{32}$  "A  $\frac{3}{16}$ " P. 1 Bl F  $\frac{1}{16}$  "A  $\frac{1}{8}$ " S. 1 Bl F + A  $\frac{7}{32}$   
5772 N 1873

Material of Crank shaft S.M. Steel Identification Mark on Do. R.L.A. 19.10.21 Material of Thrust shaft S.M. Steel Identification Mark on Do. R.L.A. 11.21  
R.L.A. 12.21

Material of Tunnel shafts ✓ Identification Marks on Do. Material of Screw shafts S.M. Steel Identification Marks on Do. R.L.A. 10.21

Material of Steam Pipes Solid Drawn Steel 5 $\frac{1}{2}$ "  $\frac{1}{4}$ "  $\times$   $\frac{1}{4}$ " thick Test pressure 540 lbs.  $\square$

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 duplicate of a previous case No If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been constructed under special survey. The materials and workmanship are sound & good. During a preliminary pressure test on the Port Boiler a slight deflection was discovered in the centric chamber wrapper plates. As a precaution extra stays were fitted at the request of the owner's representative, as shown on the accompanying plan, to all the Boilers and they withstood the official hydraulic test satisfactorily. The main and auxiliary machinery were tried out under working conditions, the Boilers' safety valves were adjusted under steam and the accumulation ascertained during oil-firing. The oil fuel installation has been efficiently fitted & its pressure line tested to 400 lbs. It complies with the requirements of Section 49 of the Rules. The vessel proceeded on her voyage coal-fired. The machinery of this vessel entitles her, in my opinion, to have the notation - L.M.C. 122. Fitted for oil fuel F.P. above 150° F. C.L. in the Society's Register Book.

Fitted for Oil Fuel, 1.22, F.P. above  $150^{\circ}$  F. *W. L.*

The amount of Entry Fee ... £ 6 : — : When applied for, 5/21/22.  
Special ... £ 103 : 14 : 20/21/22. R Lee Amers.

Donkey Boiler Fee ... £ : : When received, 2/3/22 R/BH  
Travelling Expenses (if any) £ : : 19. 2/

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned 1. Anne 1.22 J.L. G.  
Filled for oil fuel 1.22 31. above 150° F

CERTIFICATE WRITTEN

Lloyd's Register  
Foundation