

REPORT ON MACHINERY.

No. 75245

Received at London Office

11 1922

Date of writing Report 19 When handed in at Local Office 4.2.22 Port of NEWCASTLE-ON-TYNE
Date, First Survey 5th Aug. 1920 Last Survey 25th Jan 1922
(Number of Visits 61)

No. in Survey held at Newcastle. Reg. Book. 3420 on the Sleet Co. MIRLO Tons Gross 7300 Net 4550
When built 1921

Master Built at Newcastle By whom built Armstrong Whitworth & Co. Ld. when made 1922

Engines made at Newcastle By whom made Armstrong Whitworth & Co. Ld. when made 1922
Boilers made at Newcastle By whom made Armstrong Whitworth & Co. Ld. 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, &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 screw shaft Steel
as fitted 16"

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" 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 moceable 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" stroke, 12" x 12" stroke 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, &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 & 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 worked from

BOILERS, &c.—(Letter for record S) Manufacturers of Steel J. Spence & Son Ld.
Total Heating Surface of Boilers 8331 sq Is Forced Draft fitted Yes No. and Description of Boilers 3 Single End Multitubular
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 6.12.21 No. of Certificates 2-9632 2-9634

Can each boiler be worked separately Yes Area of fire grate in each boiler 68 sq No. and Description of Safety Valves to
each boiler 2 are Spring loaded Area of each valve 11.04 sq Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers on woodwork 20" Mean dia. of boilers 15'-9" Length 11'-10 3/16" Material of shell plates Steel

Thickness 1 3/16" Range of tensile strength 30/34 sq Are the shell plates welded or flanged no. Descrip. of riveting: cir. seams D.R.L.
long. seams T.R. D.B. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 3/4" Lap of plates or width of butt straps 18 1/2"

Per centages of strength of longitudinal joint rivets 87.8 Working pressure of shell by rules 181 Size of manhole in shell 16" x 12"
plate 85.7

Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 maison Material Steel Outside diameter 49 1/4"
Length of plain part top Thickness of plates crown 9 1/16" Description of longitudinal joint welded No. of strengthening rings
bottom 7 1/16"

Working pressure of furnace by the rules 181 Combustion chamber plates: Material Steel Thickness: Sides 3/32" Back 2 1/32" Top 2 1/32" Bottom 7/8"
Pitch of stays to ditto: Sides 10" x 8" Back 9 1/2" x 8 1/2" Top 10" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181

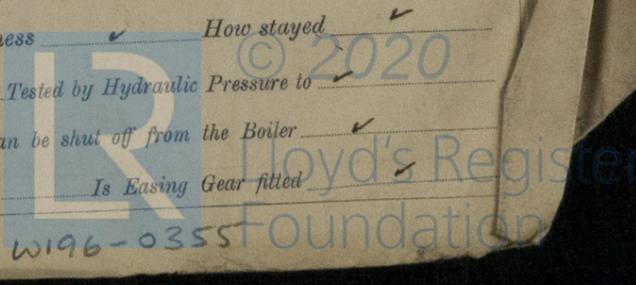
Material of stays Steel Area at smallest part 2.030" Area supported by each stay 820" Working pressure by rules 223 End plates in steam space:
Material Steel Thickness 1 3/16" Pitch of stays 22" x 16" How are stays secured D.N. + W. Working pressure by rules 180 Material of stays Steel

Area at smallest part 6.10" Area supported by each stay 3230" Working pressure by rules 196 Material of Front plates at bottom Steel
Thickness 2 3/8" Material of Lower back plate Steel Thickness 1 5/16" Greatest pitch of stays 16" Working pressure of plate by rules 184

Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" Material of tube plates Steel Thickness: Front 7/8" Back 3/4" Mean pitch of stays 10 7/16"
Pitch across wide water spaces 14 1/2" Working pressures by rules 185 Girders to Chamber tops: Material Steel Depth and
thickness of girder at centre 8 7/8" x 17 1/4" Length as per rule 36" Distance apart 8" Number and pitch of stays in each 2-10"

Working pressure by rules 185 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 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? No. If so, is a report now forwarded? /

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: 1920 Aug. 5, 17, 22 Oct. 11 Nov. 3, 5, 1921 Jan. 4, 10, 17, 19 Apr. 19, 30 Jun. 15, 17, 29, 30 Aug. 19, 1922 Sep. 12, 16, 29 Oct. 3, 6, 7, 10, 19, 20. Total No. of visits 61.

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 3in 3/8 F 3/4 A 3/4 1in 1/4 F 1/2 A 1/2 1in 1/8 F 1/4 A 1/4 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. 10.22 Material of Steam Pipes Solid Drawn Steel 5 1/2 x 1/4 x 1/4 thick Test pressure 540 lbs. 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. 1.22. Fitted for oil fuel F.P. above 150°F. C.L. in the Society's Register Book.

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

+ L.M.C. - 1.22. F.D. C.L.

Fitted for Oil Fuel, 1.22., F.P. above 150°F.

The amount of Entry Fee ... £ 6 - Special ... £ 103 : 14 Donkey Boiler Fee ... £ Travelling Expenses (if any) £

When applied for, 20/2/22. When received, 21/2/22.

R. Lee Amess.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 24 FEB. 1922

Assigned

+ L.M.C. 1.22 F.D. C.L. Fitted for oil fuel 1.22 F.P. above 150°F

CERTIFICATE WRITTEN.

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.

Port of NE No. in Reg. Book 38420 Owners Yard No. 9

DESCRIPTION On deck Capacity of D Where is Dyn Position of M Positions of 0 Bin engine 1-8 way 0 Bin

Cables ca

Are all the position Are there How are t with galva bulkhead down in

