

# REPORT ON MACHINERY.

Received at London Office

FRI. 9 MAY. 1924

Date of writing Report

19

When handed in at Local Office

8.5

1924 Port of

Belfast

No. in Survey held at Reg. Book.

Belfast

Date, First Survey 1923 Sept. 21<sup>st</sup>. Last Survey

May 4<sup>th</sup> 1924

Master

on the New Steel S.S. Arlington Court

Built at

Belfast

By whom built

Workman Clark & Co Ltd

When built

1924

Engines made at

Belfast

By whom made

Workman Clark & Co Ltd (H69)

when made

1924

Boilers made at

Belfast

By whom made

Workman Clark & Co Ltd

when made

1924

Registered Horse Power

Owners

Court Line Coy Ltd

Port belonging to

London

Nom. Horse Power as per Section 28

1114

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

## ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

26, 14, 10

Length of Stroke

14

Revs. per minute

62

Dia. of Screw shaft

14.47

Material of screw shaft

Steel

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

yes

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

yes

If two

liners are fitted, is the shaft lapped or protected between the liners

Length of stern bush

5'-0"

Dia. of Tunnel shaft

as per rule 12.7

as fitted 13.2

Dia. of Crank shaft journals

as per rule 12.57

as fitted 14.0

Dia. of Crank pin

14.4

Size of Crank webs

8.8

Dia. of thrust shaft under collars

No. of Feed pumps

2

Diameter of ditto

4.4

Stroke

2.4

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

4.4

Stroke

2.4

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

See list

Sizes of Pumps

BR 2 @ 3"

1 spec 4.8"

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

In Engine Room

BR 2 @ 3"

1 spec 4.8"

In Holds, &c.

No 1 2 @ 3"

No 2 2 @ 3"

No 3 2 @ 3"

No. of Bilge Injections

1

sizes

8"

Connected to condenser, or to circulating pump

C.P.

Is a separate Donkey Suction fitted in Engine room & size

yes

4.8"

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

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

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

Bilge suction

How are they protected

Wood casing

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)

Manufacturers of Steel

W Beardmore & Co Ltd

Total Heating Surface of Boilers

4014

Is Forced Draft fitted

no

No. and Description of Boilers

3

Single Ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

18-3-24

No. of Certificate

836

Can each boiler be worked separately

yes

Area of fire grate in each boiler

66.125

No. and Description of Safety Valves to each boiler

2

Spring loaded

Area of each valve

5.9

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

2'-6"

Mean dia. of boilers

15'-6"

Length

11'-0"

Material of shell plates

Steel

Thickness

1/4"

Range of tensile strength

28 to 32 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

DR

long. seams

T.R.D.B.S

Diameter of rivet holes in long. seams

1/4"

Pitch of rivets

8 1/2"

Lap of plates or width of butt straps

18 5/8"

Per centages of strength of longitudinal joint

85.9

Working pressure of shell by rules

181.5

Size of manhole in shell

16 x 12"

Size of compensating ring

2-9 1/4 x 2-6 3/4

No. and Description of Furnaces in each boiler

3

Material

Steel

Outside diameter

4'-1 1/4"

Length of plain part

top

bottom

Thickness of plates

19

Description of longitudinal joint

weld

No. of strengthening rings

yes

Working pressure of furnace by the rules

184.2

Combustion chamber plates: Material

Steel

Thickness: Sides

1/6"

Back

1/6"

Top

1/6"

Bottom

1/6"

Pitch of stays to ditto: Sides

8 x 9"

Back

9 1/2 x 9 1/2"

Top

8 x 10"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

186.3

Material of stays

Iron

Area at smallest part

13.203

Area supported by each stay

84.4

Working pressure by rules

180 lbs

End plates in steam space:

Material

Steel

Thickness

1 3/16"

Pitch of stays

19 1/2 x 21 1/2"

How are stays secured

D.N. Wash

Working pressure by rules

182.5

Material of stays

Steel

Area at smallest part

6.66

Area supported by each stay

34.9

Working pressure by rules

189 lbs

Material of Front plates at bottom

Thickness

3/32"

Material of Lower back plate

Steel

Thickness

2 1/32"

Greatest pitch of stays

15 1/6 x 8"

Working pressure of plate by rules

184 1/2

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2 x 4 3/4"

Material of tube plates

Steel

Thickness: Front

3/32"

Back

Pitch across wide water spaces

14 1/2 x 8 3/4"

Working pressures by rules

203 lbs

Girders to Chamber tops: Material

Steel

Depth and thickness of girder at centre

2 @ 9 3/4 x 3/4"

Length as per rule

2'-10 1/2"

Distance apart

10"

Number and pitch of stays in each

3 @ 8"

Working pressure by rules

IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - 1, Solid C.I. Propeller 1 screw shaft 9 coupling Bolts & Nuts. 2, Connecting Rod Top & Bottom End Bolts & Nuts 2 Abd. & Art. Ecc. Thrust Bolts & Nuts. 2, Main B<sup>g</sup> Nuts & Bolts. 2, Feed Pump suction & Discharge Valves & Seats. 1, Pidge Pump suction & Discharge Valve & Seat. 1, set of 2 carbide Rings for MP & LP Pistons. 1, set of 2 carbide Rings & Springs for HP Piston Valve. 1, set of Metallic Packing for HP Piston Rod. 1, set of Thr Pump Head Valves. 1, set of 2 carbide Rings & Springs for HP Piston assisted both units & inn.

The foregoing is a correct description FOR WORKMAN, CLARK & CO., LIMITED.

Birmingham

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1923 Sep. 21, Oct. 30, 31, Nov. 1, 7, 11, 13, 15, 20, 21, 23, 26, 27, Dec. 3, 7, 12, 13, 20, 21, 1924 Jan. 2, 9, 10, 16, 17, 23, 25, 29, 30, Feb. 5, 8, 11, 12, 25, 27, 28, 29, Mar. 3, 4, 5, 10, 11, 12, 13, 14, 17, 18, 20, 21, 24, 25, 26, 31, Apr. 2, 11, 12, 15, 17, 18, 28, 30, May 5, 6, 7. Total No. of visits 63. Is the approved plan of main boiler forwarded herewith  no will forward with 7/4/24. " " " donkey " " "

Dates of Examination of principal parts: Cylinders 25-27-28 Slides 25-27-28 Covers 13-12-13 Pistons 13-12-13 Rods 30-1-24 Connecting rods 30-1-24 Crank shaft 12-2-24 Thrust shaft 12-2-24 Tunnel shafts 18-3-24 Screw shaft 18-3-24 Propeller 11-3-24 Stern tube 11-3-24 Steam pipes tested 25-27-28 16-2-24 Engine and boiler seatings 2-11-24 Engines holding down bolts 28-11-24 Completion of pumping arrangements 30-1-24 Boilers fixed 30-1-24 Engines tried under steam 1-5-24 Completion of fitting sea connections 2-11-24 Stern tube 2-11-24 Screw shaft and propeller 2-11-24 Main boiler safety valves adjusted 30-1-24 Thickness of adjusting washers 9 Blk 3/8 3/16 Cent Blk 1/2 5/16 Stand B 3/8 2/8 Material of Crank shaft Steel Identification Mark on Do. 469 W.B. Material of Thrust shaft Steel Identification Mark on Do. 6801 W.B. Material of Tunnel shafts Steel Identification Marks on Do. 469 W.B. Material of Screw shafts Steel Identification Marks on Do. 6786 W.B. Material of Steam Pipes Solid drawn steel Test pressure 540 lbs sq. in.

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  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 built under Special Survey. Materials & workmanship good, hydraulic tests satisfactory. The whole of the Machinery has been satisfactorily installed & tried in the vessel and tried under steam & is in good & safe working condition & eligible in my opinion to be classed & have records. ✠ LMC. 5-24. Tail Shaft C.L. 5-24. Elect St. It is submitted that this vessel is eligible for THE RECORD. + LMC 5-24. CL.

W.D. 12/5/24

Independent Pumps: - 2 Ballast duplex 8" x 10 1/2" x 10", 1 Centrifugal circulating 11" suet x 39" dia impeller 1 Evaporator feed pp. duplex 3 1/2" x 2 1/4" x 3 1/2", 1 General Service duplex pp 8" x 6" x 8". 2 Weirs feed pps. 4" x 9 1/2" x 21"

The amount of Entry Fee ... £ 5 : 0 : 1 When applied for, 3-5-1924 Special Donkey Boiler Fee ... £ 15 : 0 : 1 When received, 12-5-24 Travelling Expenses (if any) £

William Butler Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE MAY 13 1924 Assigned + L.M.C. 5-24 C.L.



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

CERTIFICATE WRITTEN