

REPORT ON MACHINERY.

No. 8970

Received at London Office

TUE. 2 OCT. 1923

Date of writing Report

10

When handed in at Local Office

10

Port of

Belfast

No. in Survey held at
Reg. Book.

on the

New Steel Y.S.S. Mooltan

Date, First Survey 1920, Nov. 1

Last Survey 21st Sept 1923

(Number of Vessels 195

Gross 20844
Net 12836

Master

Built at

Belfast

By whom built

Harland & Wolff Ltd

When built

1923

Engines made at

Belfast

By whom made

Harland & Wolff Ltd

when made

1923

Boilers made at

Belfast

By whom made

Harland & Wolff Ltd

when made

1923

Registered Horse Power

Owners Peninsular & Oriental S.N.C.

Port belonging to

Belfast

Nom. Horse Power as per Section 28

2632

Is Refrigerating Machinery fitted for cargo purposes

yes

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines

Twin Screw Quadruple Expansion

No. of Cylinders

8

No. of Cranks

8

Dia. of Cylinders

22 x 4 1/2 x 6 1/2 x 9 1/2

Length of Stroke

60"

Revs. per minute

80

Dia. of Screw shaft

as per rule 18 1/4

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

4' 6"

Dia. of Tunnel shaft

as per rule 14 1/2

Dia. of Crank shaft journals

as per rule 18 1/4

Dia. of Crank pin

20 1/2

Size of Crank webs

26 1/2 x 13 1/2

Dia. of thrust shaft under

collars

18 3/4

Dia. of screw

19 1/2

Pitch of Screw

24" 0"

No. of Blades

3

State whether moveable

yes

Total surface

105 sq ft

No. of Feed pumps

Three

Independent (Worthington)

Stroke

30"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

Independent as per list of pumps

Stroke

30"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

See list

Sizes of Pumps

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

3 @ 3 1/2" dia Bilge room

3 @ 3 1/2" dia Bilge room

1 @ 4" dia independent in 4" dia

fuel oil pump room

1 @ 3 1/2" dia in each fuel oil pump room

2 @ 3 1/2" dia in 4" dia

2 @ 3 1/2" dia in 4" dia

2 @ 3 1/2" dia in 4" dia

2 @ 3 1/2" dia in 4" dia

2 @ 3 1/2" dia in 4" dia

2 @ 3 1/2" dia in 4" dia

2 @ 3 1/2" dia in 4" dia

In Holds:-

3 @ 3 1/2" dia in holds

1-2-3-4-5

2 @ 3 1/2" dia in holds

1 @ 3 1/2" dia in holds

1 @ 3 1/2" dia in holds

1 @ 3 1/2" dia in holds

1 @ 3 1/2" dia in holds

1 @ 3 1/2" dia in holds

1 @ 3 1/2" dia in holds

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1 @ 3 1/2" dia in holds

1 @ 3 1/2" dia in holds

1 @ 3 1/2" dia in holds

1 @ 3 1/2" dia in holds

1 @ 3 1/2" dia in holds

1 @ 3 1/2" dia in holds

No. of Bilge Injections

2 sizes 1 1/2"

Connected to condenser, or to circulating pump

yes

Is a separate Donkey Suction fitted in Engine room & size

yes

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 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

yes

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 Engine Room Bridge

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

D. Ashville & Sons

Total Heating Surface of Boilers

41258 sq ft

Is Forced Draft fitted

yes

No. and Description of Boilers

6 D.E. + 2 S.E.

Working Pressure

215

Tested by hydraulic pressure to

345 lbs

Date of test

See separate

No. of Certificate

Reports

Can each boiler be worked separately

yes

Area of fire grate in each boiler

No. and Description of Safety Valves to

each boiler

Area of each valve

Pressure to which they are adjusted

220 lbs

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

long. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

rivets

plate

Working pressure of shell by rules

Size of manhole in shell

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

top

Thickness of plates

bottom

crown

Description of longitudinal joint

bottom

No. of strengthening rings

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

Pitch of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or riveted heads

Working pressure by rules

Material of stays

Area at smallest part

Area supported by each stay

Working pressure by rules

End plates in steam space:

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of stays

Area at smallest part

Area supported by each stay

Working pressure by rules

Material of Front plates at bottom

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Diameter of tubes

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Pitch across wide water spaces

Working pressures by rules

Girders to Chamber tops: Material

Depth and

thickness of girder at centre

Length as per rule

Distance apart

Number and pitch of stays in each

Working pressure by rules

Steam dome: description of joint to shell

% 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

If not, state whether, and when, one will be sent

Is a Report also sent on the Hull of the Ship?

20.7.17. T

W1650-0383

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

✓

SPARE GEAR. State the articles supplied:— see separate list.

Pumps:—

3 Main feed pps. duplex 20" x 14" x 32 str 1 Waste Oil pp. 1 1/2 x 3 1/8 x 5 S.A. 2 oil fuel transfer pps 12 x 14 x 24 Simplex
2 " Air pps. turnplex 16 x 28 x 18 1 Sanitary pp. Simplex 2 A. 12 1/2 x 14 x 24 1 " " Sediment pp 6 x 6 x 12 "
1 Emergency ludge pp (center) 10" x 12" 1 Ballast " " " 4 oil fuel pressure pumps.
2 Circulating pps " Impeller 2 1/4" 1 Ridge " " " 1 1/2 x 3 x 6. Duplex.
1 Aux feed pp duplex 10 x 4 1/2 x 24 1 Hot Water " " S.A. 6 1/2 x 6 x 18
2 Fresh w pp " 6 1/2 x 6 x 18

The foregoing is a correct description,

For HARLAND & WOLFF Ltd.

F. E. Beck

Manufacturer.

Dates of Survey while building
During progress of work in shops - -
During erection on board vessel - - -
Total No. of visits

From November 1st to 21st Sept 1923

195

are the approved plans of main boilers forwarded herewith Yes (204).
(To be returned for 4 + 588)

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 24-7-22 Slides 2-5-22 Covers 2-5-22 Pistons 2-5-22 Rods 24-7-22

Connecting rods 24-7-22 Crank shaft 9-8-22 Thrust shaft 22-8-22 Tunnel shafts 27-1-23 Screw shaft 12-8-22 Propeller 26-6-22

Stern tube 26-6-22 Steam pipes tested 24-7-22 Engine and boiler seatings 4-7-23 Engines holding down bolts 1-8-23

Completion of pumping arrangements 4-9-23 Boilers fixed 18-4-23 Engines tried under steam 21-9-23

Completion of fitting sea connections 31-1-23 Stern tube 31-1-23 Screw shaft and propeller 31-1-23

Main boiler safety valves adjusted 12-9-23 Thickness of adjusting washers 24-7-22

Material of Crank shaft Steel Identification Mark on Do. 3958 H.P.S. Material of Thrust shaft Steel Identification Mark on Do. 3958 H.P.S.

Material of Tunnel shafts Steel Identification Marks on Do. 3958 H.P.S. Material of Screw shafts Steel Identification Marks on Do. 3958 H.P.S.

Material of Steam Pipes Solid drawn steel Test pressure 650 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 built under Special Survey. Materials & workmanship good, and in accordance with the Rules & approved plans. The whole of the machinery has been efficiently installed in the vessel and tried under steam & is in good & safe working condition & eligible in my opinion to be classed & have records. LMC 9-23
Tail Shafts continuous liners, Elec St, Ref Mch, Fitted for oil fuel 9-23
FP above 150°F. on completion of the survey.

To complete the survey flexible wire ropes for operating the self closing sluice valves on the oil fuel bunkers require to be fitted, this will be done at London per letter to Secretary Sept 26/23.

The amount of Entry Fee ... £ 6 : 0 : 0 When applied for,

Special ... £ 165 : 16 : 0 Sept 25th 1923

Donkey Boiler Fee ... £ ✓ : : When received,

Travelling Expenses (if any) £ ✓ : : 200 1923

Committee's Minute FRI. 19 OCT. 1923

Assigned

+ Ldn 6.9.23
D.D. C.L.

Lined for oil fuel 9-23 FP above 150°F

William Butler & H.P. Southwell
Engineer Surveyor to Lloyd's Register of Shipping.



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