

Rpt. 4.

REPORT ON MACHINERY.

No. 28400

Date of writing Report

19

When handed in at Local Office

19 AUG 1922

Received at London Office

MON. AUG. 21 1922

No. in Survey held at SUNDERLAND.

Reg. Book.

on the SS. CASTLEMOOR

Date, First Survey 5 Jan

Port of

SUNDERLAND

Last Survey 11 Aug 1922

(Number of Visits 37)

Master Anderson

Built at Sunderland

By whom built Messrs W. Dore and Sons (562)

Tons Gross 6574

Net 4078

When built 1922

Engines made at Sunderland

By whom made

Messrs W. Dore and Sons (562)

when made 1922

Boilers made at Sunderland

By whom made

Messrs W. Dore and Sons (562)

when made 1922

Registered Horse Power

Owners The Mermaid Ltd

Port belonging to London

Nom. Horse Power as per Section 28 577

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted YES

ENGINES, &c.—Description of Engines

Triple

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 27.44 1/2. 75

Length of Stroke 54

Revs. per minute 70

Dia. of Screw shaft

as per rule 15.24

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

If the liner does not fit tightly at the part

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

If two

Dia. of Tunnel shaft

as per rule 13.93

Dia. of Crank shaft journals

as per rule 14.6

Dia. of Crank pin

as fitted 14.3

Length of stern bush 5-10

collars 14 3/4

Dia. of screw 18.0

Pitch of Screw 18.0

No. of Blades 4

State whether moveable

No

Total surface 102.9

No. of Feed pumps 2

Diameter of ditto 5

Stroke 30

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps 2

Diameter of ditto 5

Stroke 30

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines 3

SIZES OF PUMPS

11 1/2 x 11, 10 1/2 x 8, 22, 7 1/2 x 5, 6

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

In Engine Room 4 @ 3 1/2

In Holds, &c. In No 1 & 2, 2 @ 3 1/2 In No 3, 2 @ 3 1/2

No. of Bilge Injections 1

sizes 9

Connected to condenser, or to circulating pump

Yes

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

Yes

Is it fitted with a watertight door

Yes

worked from

Upper Platform

OILERS, &c.—(Letter for record S)

Manufacturers of Steel

Colville & Sons, & Spencer & Sons

Total Heating Surface of Boilers 8530

Is Forced Draft fitted

Yes

No. and Description of Boilers

Three single ended

Working Pressure 180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

26.6.22, 29.6.22

No. of Certificate

3801, 3802

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

66.9

Each boiler

Two Spring valves

Area of each valve

12.56 sq in

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

No bunkers in way between

Mean dia. of boilers

15.11

Length

12.0

Material of shell plates

S

Thickness 1 5/8

Range of tensile strength

28 1/2 - 32 3/8

Are the shell plates welded or flanged

No

Long. seams d. h. riv.

Diameter of rivet holes in long. seams

1 5/16

Pitch of rivets

8 3/4

Lap of plates or width of butt straps

19

Percentages of strength of longitudinal joint

rivets 87

plate 85

Working pressure of shell by rules

189

Size of manhole in shell

12 x 16

Size of compensating ring

Flanged

No. and Description of Furnaces in each boiler

3 Morrison

Material

S

Outside diameter

4-5 3/4

Length of plain part

top 13.9

bottom 6.4

Description of longitudinal joint

Welded

Working pressure of furnace by the rules

181

Combustion chamber plates: Material

S

Thickness: Sides

5/8

Back

5/8

Top

5/8

Bottom

Pitch of stays to ditto: Sides

7 3/8 x 7 3/8

Back

7 3/8 x 7 3/8

Top

7 3/8 x 7 3/8

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

217

Material of stays

S

Area at smallest part

1.44 sq in

Area supported by each stay

62 sq in

Working pressure by rules

186

End plates in steam space:

Material of stays

S

Area at smallest part

8.48 sq in

Area supported by each stay

34.8 sq in

Working pressure by rules

263

Material of Front plates at bottom

S

Thickness 29/32

Material of Lower back plate

S

Thickness

53/64

Greatest pitch of stays

14 1/8

Working pressure of plate by rules

181

Diameter of tubes 2 1/2

Pitch of tubes

3 5/8 x 3 3/4

Material of tube plates

S

Thickness: Front

29/32

Back

3/4

Mean pitch of stays

7 1/2 x 7 1/2

Pitch across wide water spaces

12 1/2

Working pressures by rules

201

Girders to Chamber tops: Material

S

Depth and

Number and pitch of stays in each

3, 7 3/8

Working pressure by rules

185

Steam dome: description of joint to shell

None

% of strength of joint

-

Thickness of shell plates

-

Material

-

Description of longitudinal joint

-

Diam. of rivet holes

-

How stayed

-

Working pressure of shell by rules

-

Crown plates

-

Thickness

-

How stayed

-

-

-

SUPERHEATER. Type

-

Date of Approval of Plan

-

Tested by Hydraulic Pressure to

-

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

-

Is Easing Gear fitted

-

Diameter of Safety Valve

-

Pressure to which each is adjusted

-

-

-

-

-

-

-

Length of plain part

top 13.9

bottom 6.4

Description of longitudinal joint

Welded

Working pressure of furnace by the rules

181

Combustion chamber plates: Material

S

Thickness: Sides

5/8

Back

5/8

Top

5/8

Bottom

Pitch of stays to ditto: Sides

7 3/8 x 7 3/8

Back

7 3/8 x 7 3/8

Top

7 3/8 x 7 3/8

If stays are fitted with nuts or riveted heads

Nuts

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1.44 sq in

Area supported by each stay

62 sq in

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End plates in steam space:

Material of stays

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Area at smallest part

8.48 sq in

Area supported by each stay

34.8 sq in

Working pressure by rules

263

Material of Front plates at bottom

S

Thickness 29/32

Material of Lower back plate

IS A DONKEY BOILER FITTED? **No.**

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:—*Two top end, two bottom end connecting rod bolts and nuts, two main bearing bolts, one set coupling bolts, one set feed and bilge pump valves, assorted bolts and nuts, Iron of various sizes, one propeller* ✓

The foregoing is a correct description,

WILLIAM DOXFORD & SONS, Limited,

Maxwell

Manufacturer.

Dates of Survey while building { During progress of work in shops - - ~~1922 Jan. 5-9-26 Feb. 8-22-28~~ *1922 Jan. 5-9-26 Feb. 8-22-28* ~~Mch. 6-16-21-23-28-31~~ *Mch. 6-16-21-23-28-31* ~~Apr. 4-6-12-21-26~~ *Apr. 4-6-12-21-26* ~~May, 4-12-16-23-31~~ *May, 4-12-16-23-31* ~~June, 8-20-26-27-29-30~~ *June, 8-20-26-27-29-30* ~~July, 4-6-13~~ *July, 4-6-13*
During erection on board vessel - - - *12-14-18-21 Aug. 24-11*
Total No. of visits *34*

Is the approved plan of main boiler forwarded herewith **YES**

" " " donkey " " " ☒

Dates of Examination of principal parts—Cylinders *4.7.22* Slides *20.6.22* Covers *12.4.22* Pistons *12.4.22* Rods *20.6.22*

Connecting rods *4.7.22* Crank shaft *12.7.22* Thrust shaft *12.7.22* Tunnel shafts *12.7.22* Screw shaft *12.7.22* Propeller *12.7.22*

Stern tube *20.6.22* Steam pipes tested *30.6 & 2.8.22* Engine and boiler seatings *8.6.22* Engines holding down bolts *2.8.22*

Completion of pumping arrangements *2.8.22* Boilers fixed *2.8.22* Engines tried under steam *11.8.22*

Completion of fitting sea connections *8.6.22* Stern tube *6.7.22* Screw shaft and propeller *2.8.22*

Main boiler safety valves adjusted *11.8.22* Thickness of adjusting washers *PTB-14 P 3/8 S 3/8 CEN-2 B 5/8 P 3/8 S 7/16 ST-B 1/2 P 3/8 S 3/8*

Material of Crank shaft *Steel* Identification Mark on Do. *562 GAH* Material of Thrust shaft *Steel* Identification Mark on Do. *562 GAH*

Material of Tunnel shafts *Steel* Identification Marks on Do. *562 GAH* Material of Screw shafts *Steel* Identification Marks on Do. *562 GAH*

Material of Steam Pipes *Copper* Test pressure *400 lb sq*

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 **Yes** If so, state name of vessel **SS. 'ALNMOOR'**

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Machinery of this vessel has been built under special survey, the materials and workmanship are sound and good and under the vessel shipit in my opinion to have record of T.L.M.C. 8.22.

See Glasgow Report 41254 attached

SUNDERLAND.

Certificate (if required) to be sent to.

The amount of Entry Fee ... £ *6* : : When applied for.
(£10. charged at Glasgow) £ *93* : *17* : *15 Aug 1922*
Donkey Boiler Fee ... £ : : When received.
Travelling Expenses (if any) £ : : *17 Aug 1922*

Committee's Minute *FRI. 25 AUG. 1922*

Assigned

+ L.M.C. 8.22
F.D. C.L.

G.S. Hall

Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation

CERTIFICATE WRITTEN.