

REPORT ON MACHINERY

No. 28715

Received at London Office TUE. 15 JAN. 1924

Date of writing Report

19

When handed in at Local Office

14 JAN 1924

Port of

SUNDERLAND

No. in Survey held at
Reg. Book.

SUNDERLAND

Date, First Survey

11 June 1923

Last Survey

11 Jan 1924

(Number of Visits 26)

on the S.S. "PENHALE"

Master

Built at Sunderland

By whom built

Messrs J. Priestman & Co (Ld)

Gross 4671

Net 2451

When built 1924

Engines made at

Sunderland

By whom made

Messrs G. Clark & Co (1133)

when made 1924

Boilers made at

Sunderland

By whom made

Messrs G. Clark & Co (1133)

when made 1924

Registered Horse Power

Owners R. B. Chellaw & Son, Esq.

Port belonging to

Cardiff

Nom. Horse Power as per Section 28

817

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

24, 40, 66

Length of Stroke

45

Revs. per minute

Dia. of Screw shaft

as per rule 13.65

Material of

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

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

Dia. of Tunnel shaft

as per rule 12.08

as fitted 12.5

Dia. of Crank shaft journals

as per rule 12.68

as fitted 12.3

Dia. of Crank pin

12.3

Size of Crank webs

8x18.5

Dia. of thrust shaft under

collars

12.3

Dia. of screw

17-0

Pitch of Screw

16-7.5

No. of Blades

4

State whether moveable

No

Total surface

89.74

No. of Feed pumps

2

Diameter of ditto

3.5

Stroke

26

Can one be overhauled while the other is at work

YES

No. of Bilge pumps

2

Diameter of ditto

3.5

Stroke

26

Can one be overhauled while the other is at work

YES

No. of Donkey Engines

4

Sizes of Pumps

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

In Engine Room 3 @ 2.5"

In Engine Room 3 @ 2.5"

2 in after main hold 3"

2 in after hold 3"

1 in tunnel hold 3"

No. of Bilge Injections

1

sizes

5.5"

Connected to condenser or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size

YES

4.5"

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

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

J. Spencer & Sons

Total Heating Surface of Boilers

4905.4

Is Forced Draft fitted

No

No. and Description of Boilers

Three single ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

27.9.23

No. of Certificate

3853

Can each boiler be worked separately

YES

Area of fire grate in each boiler

494

No. and Description of Safety Valves to

each boiler

Two spring valves

Area of each valve

5.414

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

way between

Mean dia. of boilers

13-6"

Length

11-0"

Material of shell plates

Thickness

1.74

Range of tensile strength

28-32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

Lap & H

long. seams

Lap & H

Diameter of rivet holes in long. seams

1.5

Pitch of rivets

7.34

Lap of plates on

width of butt straps

17.5

Per centages of strength of longitudinal joint

rivets

88.8

Working pressure of shell by rules

182

Size of manhole in shell

16x13

Size of compensating ring

flanged

No. and Description of Furnaces in each boiler

3 Doughton

Material

S

Outside diameter

3-5.5"

Length of plain part

top

Thickness of plates

crown

3.12

Description of longitudinal joint

welded

No. of strengthening rings

Working pressure of furnace by the rules

186

Combustion chamber plates: Material

S

Thickness: Sides

23/32

Back

1/16

Top

23/32

Bottom

23/32

Pitch of stays to ditto: Sides

9x10.5

Back

10x9.5

Top

10x10

If stays are fitted with nuts or riveted heads

NOTS INSIDE

Working pressure by rules

180

Material of stays

S

Area at smallest part

1.34

Area supported by each stay

95.0"

Working pressure by rules

181

End plates in steam space:

Material

S

Thickness

1.32

Pitch of stays

22+17.5

How are stays secured

DN+W

Working pressure by rules

180

Material of stays

S

Material

S

Thickness

1.32

Pitch of stays

22+17.5

How are stays secured

DN+W

Working pressure by rules

185

Material of Front plates at bottom

S

Thickness

1.32

Material of Lower back plate

S

Thickness

1.32

Greatest pitch of stays

16"

Working pressure of plate by rules

184

Diameter of tubes

3.5

Pitch of tubes

4.5x4.5

Material of tube plates

S

Thickness: Front

1.32

Back

3/4

Mean pitch of stays

10.5

Pitch across wide water spaces

14.5

Working pressures by rules

184

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

8.5x1.5

Length as per rule

33"

Working pressure by rules

180

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

004556-004563-0013

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 hinge pump valves, assorted bolts and nuts, Iron various sizes, one propeller one propeller shaft.

The foregoing is a correct description,

FOR GEORGE CLARK LIMITED

W. S. Spruce

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1923 June 14, 15, 19 July 3, 9, 16, 23, 31 Aug 2, 8, 13, 20, 28 Sep 5, 7, 11, 13, 17, 24, 26, 27 Oct 4, 9, 12, 23, 24 Nov 2, 14, 24, 27, 28 Dec 4, 25, 27 1924 Jan 10, 11
During erection on board vessel --
Total No. of visits 36

Is the approved plan of main boiler forwarded herewith YES

" " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders 17. 9. 23 Slides 4. 10. 23 Covers 13. 8. 23 Pistons 4. 10. 23 Rods 4. 10. 23

Connecting rods 4. 10. 23 Crank shaft 5. 9. 23 Thrust shaft 13. 9. 23 Tunnel shafts 11. 9. 23 Screw shaft 17. 9. 23 Propeller 17. 9. 23

Stern tube 12. 10. 23 Steam pipes tested 14. 11. 23 + 27. 11. 23 Engine and boiler seatings 3. 12. 23 Engines holding down bolts 3. 12. 23

Completion of pumping arrangements 3. 12. 23 Boilers fixed 3. 12. 23 Engines tried under steam 7. 12. 23

Completion of fitting sea connections 14. 11. 23 Stern tube 26. 11. 23 Screw shaft and propeller 26. 11. 23

Main boiler safety valves adjusted 7. 12. 23 Thickness of adjusting washers PT. B. 1 1/2 P 1/2 S 7/8 CEN. B. 1 1/2 P 1/2 S 7/8 ST. B. 1 1/2 P 1/2 S 7/8

Material of Crank shaft Steel Identification Mark on Do. 1133GAH Material of Thrust shaft Steel Identification Mark on Do. 1133GAH

Material of Tunnel shafts Steel Identification Marks on Do. 1133GAH Material of Screw shafts Steel Identification Marks on Do. 1133GAH

Material of Steam Pipes Iron ✓ Test pressure 5740 lbs ✓

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 constructed under special survey the materials and workmanship are sound and good and under the vessel eligible in my opinion to have record of + L.M.C. 1. 24

It is submitted that this vessel is eligible for THE RECORD + LMC 1. 24. CL

Ans. JWD 17/1/24

The amount of Entry Fee ... £ 5 : : When applied for, 10 Jan 1924
Special ... £ 72 : 11 : :
Donkey Boiler Fee ... £ : : :
Travelling Expenses (if any) £ : : : When received, 17 Jan 1924

E. A. Hake
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. JAN. 18 1924

TUE. 29 JAN. 1924

Assigned

+ LMC 1. 24 CL



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