

REPORT ON MACHINERY.

No. 28857

Received at London Office WED JUL 9 1924

Date of writing Report

When handed in at Local Office

30 June 1924 Port of

Sunderland

No. in Survey held at
Reg. Book.

Sunderland

Date, First Survey

8 May 23

Last Survey

20 June 1924

on the new steel

S/S "THISTLEBEN"

Master

Built at Sunderland

By whom built W. Pickering & Sons

Tonnage

Gross 4589

Net

2688

Engines made at

Sunderland

By whom made Richardson Westgarth & Co. Ltd.

(N° 2643)

when made

1924

Boilers made at

Sunderland

By whom made Richardson Westgarth & Co. Ltd.

(N° 2643A)

when made

1924

Registered Horse Power

Owners Allan Black & Co.

Port belonging to Sunderland

Nom. Horse Power as per Section 28

430

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"-42"-70"

Length of Stroke

48"

Revs. per minute

60

Dia. of Screw shaft

as per rule 14.59

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

yes

Length of stern bush

4'-11 1/2"

Dia. of Tunnel shaft

as per rule 12.97

Dia. of Crank shaft journals

as per rule 13.62

Dia. of Crank pin

14"

Size of Crank webs

26" x 8 1/2"

Dia. of thrust shaft under

collars

13 3/4"

Dia. of screw

17'-9"

Pitch of Screw

17'-3"

No. of Blades

4

State whether moveable

no

Total surface

102 sq ft

No. of Feed pumps

2

Diameter of ditto

3 1/2"

Stroke

27"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

4"

Stroke

27"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

3

Sizes of Pumps

10 1/4 x 8, 2 @ 9 1/4 x 10

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

In Engine Room

4 @ 3 1/2"

In Holds, &c.

No. of Bilge Injections

1

size

6"

Connected to condenser, or to circulating pump

B.P.

Is a separate Donkey Suction fitted in Engine room & size

yes 4 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

on line

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

forward hold suction

How are they protected

under 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

Dates of examination of completion of fitting of Sea Connections

5-5-24

of Stern Tube

9-5-24

Screw shaft and Propeller

13-6-24

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

John Spencer & Sons Ltd.

Total Heating Surface of Boilers

61100 sq ft

Is Forced Draft fitted

no

No. and Description of Boilers

two single ended marine

Working Pressure

180

Tested by hydraulic pressure to

320

Date of test

13-5-24

No. of Certificate

3880

Can each boiler be worked separately

yes

Area of fire grate in each boiler

66 sq ft

No. and Description of Safety Valves to

each boiler

two direct spring

Area of each valve

9.62 sq ft

Pressure to which they are adjusted

185

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

4'-0"

Mean dia. of boilers

17'-6"

Length

12'-6"

Material of shell plates

steel

Thickness

1 3/4"

Range of tensile strength

31-35 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

DR

long. seams

DBSTR

Diameter of rivet holes in long. seams

1 3/8"

Pitch of rivets

9 1/8"

Lap of plates or width of butt straps

20"

Per centages of strength of longitudinal joint

rivets 88.3

plate 84.9

Working pressure of shell by rules

183

Size of manhole in shell

16" x 12"

Size of compensating ring

flanged

No. and Description of Furnaces in each boiler

3 Morrison

Material

steel

Outside diameter

4'-1 1/2"

Length of plain part

top

bottom

Thickness of plates

crown 3 1/2"

bottom 3 1/2"

Description of longitudinal joint

welded

No. of strengthening rings

yes

Working pressure of furnace by the rules

194

Combustion chamber plates: Material

steel

Thickness: Sides

3 1/2"

Back

4 1/2"

Top

3 1/2"

Bottom

13 1/2"

Pitch of stays to ditto: Sides

9 1/8" x 8 1/4"

Back

9 1/4" x 9 1/8"

Top

9 1/4" x 8 1/4"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

181

Material of stays

steel

Diameter at smallest part

1 3/32"

Area supported by each stay

8430 sq in

Working pressure by rules

180

End plates in steam space

Material

steel

Thickness

3 1/16"

Pitch of stays

20" x 17 1/2"

How are stays secured

DN

Working pressure by rules

184

Material of stays

steel

Area

Diameter at smallest part

6.10"

Area supported by each stay

3560 sq in

Working pressure by rules

189

Material of Front plates at bottom

steel

Thickness

13 1/16"

Material of Lower back plate

steel

Thickness

13 1/16"

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2" x 4 1/2"

Material of tube plates

steel

Thickness: Front

13 1/16"

Back

25 1/32"

Mean pitch of stays

10 7/8"

Pitch across wide water spaces

14 1/2" (13 1/2" BP)

Working pressures by rules

182

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

2 @ 9 1/2" x 3 1/2"

Length as per rule

34.53

Distance apart

9 3/4"

Working pressure by rules

182

Superheater or Steam chest; how connected to boiler

none

Can the superheater be shut off and the boiler worked

separately

yes

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivets

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

yes

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

Lloyd's Register

Foundation

W 693-0038

IS A DONKEY BOILER FITTED? no

If so, is a report now forwarded? —

SPARE GEAR. State the articles supplied:— Two connecting rod top and bottom end bolts and nuts. Two main bearing bolts one set of coupling bolts one set of feed and bilge pump valves iron and bolts of various sizes one propeller shaft and one propeller (cast iron)

The foregoing is a correct description;

For RICHARDSON, WESTGARTH & Co. LIMITED

Richard H. Russell

Manufacturer.

MANAGER, SUNDERLAND WORKS.

Dates of Survey while building { During progress of work in shops - - 1922 May 8.18 June 11 July 14.19 Aug. 19.22 Oct. 15.16.20 Nov. 8.12.20 24 Jan. 18.28.30
During erection on board vessel - - Feb. 25. Mar. 3.15 May 2.5.10.13.20.21.26.27 June 6.20
Total No. of visits 31

Is the approved plan of main boiler forwarded herewith yes
" " " " " " " " " " " "

Dates of Examination of principal parts—Cylinders 19-7-23 Slides 9-8-23 Covers 9-7-23 Pistons 9-8-23 Rods 4-7-23
Connecting rods 1-8-23 Crank shaft 4.1.24 Thrust shaft 16-10-23 Tunnel shafts 16-10-23 Screw shaft 16-10-23 Propeller 10-5-24
Stern tube 2-5-24 Steam pipes tested 20-5-24 Engine and boiler seatings 5-5-24 Engines holding down bolts 26-5-24
Completion of pumping arrangements 6-6-24 Boilers fixed 21-5-24 Engines tried under steam 27-5-24
Main boiler safety valves adjusted 27-5-24 Thickness of adjusting washers Port bl - P 7/16" S 5/16" Std bl - both 7/16" Aux bl - both 3/8"
Material of Crank shaft steel Identification Mark on Do. LLOYDS 6258 Material of Thrust shaft steel Identification Mark on Do. LLOYDS 6604
Material of Tunnel shafts steel Identification Marks on Do. LLOYDS 2643 Material of Screw shafts steel Identification Marks on Do. LLOYDS 6601 & 6611
Material of Steam Pipes Sap. Wrought iron Copper to aux holes. Test pressure 540 lbs & 400 lbs respectively
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 materials and workmanship are good.
The machinery has been constructed under special survey and is eligible in my opinion for classification and the Record LMC 6.24

NOTE For entry in Register Book — Total heating surface 7472 sq ft. Total grate surface 1700 sq ft.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 6.24. CL.
2SB & 1 AUX SB.

The amount of Entry Fee ... £ 5 : - : When applied for,
Special ... £ 89 : 10 : 1 JUN 1924
Donkey Boiler Fee ... £
Travelling Expenses (if any) £

S. C. Davis
10/7/24
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUES. 15 JUL 1924
Assigned + LMC 6.24