

REPORT ON MACHINERY.

No. 10811

Date of writing Report

When handed in at Local Office

25/9/20

Port of

Received at London Office

MIDDLESBRO

WED. SEP. 29

0

No. in Survey held at
Reg. Book.

Stockton-on-Tees

Date, First Survey

23rd March/20

Last Survey

22nd Sept. 1920

on the

Steel screw steamer DIADEM

(Number of Vessels)

Gross

Tons

Master

Built at

Sunderland

By whom built

Sunderland S. B. Co. Ltd.

When built

1920

Engines made at

Stockton

By whom made

Thos. Blair & Co. Ltd. (No. 1881)

when made

1920

Boilers made at

Stockton

By whom made

Thos. Blair & Co. Ltd.

when made

1920

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28

450

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines

Tri-compound

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

26-48-71

Length of Stroke

48

Revs. per minute

64

Dia. of Screw shaft

as per rule 14.7

Material of

screw shaft

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

If the liner is in more than one length are the joints burned in one

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

tight fit

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

Length of stern bush

5'-4"

Dia. of Tunnel shaft

as per rule 13.05

as fitted 13.74

Dia. of Crank shaft journals

as per rule 13.7

as fitted 14.4

Dia. of Crank pin

14.7

Size of Crank webs

18.5 x 9.5

Dia. of thrust shaft under

collars

14.74

Dia. of screw

18'-0"

Pitch of Screw

17'-6"

No. of Blades

4

State whether moveable

no

Total surface

100 ft

No. of Feed pumps

2

Diameter of ditto

3.5

Stroke

34

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

5

Stroke

34

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

10 x 10

7 x 5 x 8

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

In Engine Room

2 @ 3.5

In Holds, &c.

2 @ 3.5 in each hold

Tunnel will run @ 3.5

No. of Bilge Injections

1 size 6.74

Connected to condenser & circulating pump

yes

Is a separate Donkey Suction fitted in Engine room & size

yes - 4"

Are all the bilge suction pipes fitted with roses

Are the roses in Engine room always accessible

Are the sluices on Engine room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship

Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

Are the Discharge Pipes above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers

How are they protected

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

Dates of examination of completion of fitting of Sea Connections

of Stern Tube

Screw shaft and Propeller

Is the Screw Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

upper deck

BOILERS, &c.—(Letter for record. (1))

Manufacturers of Steel

Messrs. John H. Green & Sons Ltd.

Total Heating Surface of Boilers

7917

Is Forced Draft fitted

no

No. and Description of Boilers

3 single ended

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test

23.8.20

No. of Certificate

6151

Can each boiler be worked separately

yes

Area of fire grate in each boiler

62 ft

No. and Description of Safety Valves to

each boiler

2 direct spring

Area of each valve

7.07 sq

Pressure to which they are adjusted

185 lb

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers on deck

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

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

Thickness of plates

Description of longitudinal joint

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

Diameter 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

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

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

003487-003494-0150

IS A DONKEY BOILER FITTED? no

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied: 2 each of connecting rod top end, bottom end and main bearing bolts and nuts; one set of coupling bolts; one set of feed and bilge pump valves assorted bolts and nuts; iron of various sizes, one propeller & one tail end shaft

The foregoing is a correct description,
For BLAIR & Co., LIMITED.

Sir. Nettuship
MANAGING DIRECTOR

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1920. Mar 23. 29. 31. April 8. 19. 26. 29. 30. May 7. 12. 19. 21. 28. 31. June 2. 10. 14. 16. 18.
During erection on board vessel -- 24. 28. July 5. 9. 13. 20. 23. 27. 28. 30. Aug 3. 6. 9. 11. 13. 23. 25. 27. 30. 31. Sep 2. 3. 6. 10. 14. 15. 17. 20. 22.
Total No. of visits 49 Is the approved plan of main boiler forwarded herewith yes
at Eld. July 14. (1) " " " donkey " " " none

Dates of Examination of principal parts—Cylinders 20. 7. 20 Slides 23. 7. 20 Covers 23. 7. 20 Pistons 3. 8. 20 Rods 30. 7. 20
Connecting rods 31. 8. 20 Crank shaft 30. 7. 20 Thrust shaft 23. 3. 20 Tunnel shafts 28. 7. 20 Screw shaft 27. 8. 20 Propeller 25. 8. 20
Stern tube 28. 7. 20 Steam pipes tested 15. 9. 20 Engine and boiler seatings 14. 7. 20 Engines holding down bolts 14. 9. 20
Completion of pumping arrangements 20. 9. 20 Boilers fixed 14. 9. 20 Engines tried under steam 20. 9. 20
Main boiler safety valves adjusted 20. 9. 20 Thickness of adjusting washers P. Bl. 5-3/8" : Cent. Bl. 5-9/32" : S. Bl. 5-11/32"
Material of Crank shaft Hy Steel Identification Mark on Do. 7269 Material of Thrust shaft Hy Steel Identification Mark on Do. 4965-N
Material of Tunnel shafts Hy Steel Identification Marks on Do. 4965-N Material of Screw shafts Hy Steel Identification Marks on Do. 7269.
Material of Steam Pipes Tap welded steel Test pressure 600 lb

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. The materials and workmanship are sound and good. The boilers and steam pipes were tested by hydraulic pressure and the engines and boilers examined under and all found satisfactory.
The machinery is now in a good and safe working condition and renders the vessel eligible in my opinion to have the notation of $\frac{1}{2}$ L.M.C.-9.20 in the Register Book.

Note: - This vessel is fitted with Electric Light and "winlers"

It is submitted that
this vessel is eligible for
THE RECORD + L.M.C. 9.20

Reh 2/10/20

The amount of Entry Fee ... £ 3-0-0 When applied for,
Special ... £ 42-10-0 11/10/20
Donkey Boiler Fee ... £ - When received,
Travelling Expenses (if any) £ - 14/10/20

Committee's Minute FRI. OCT. 15 1920
Assigned + L.M.C. 9.20

CERTIFICATE WRITTEN



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