

REPORT ON MACHINERY.

No. 29385

Date of writing Report

19

When handed in at Local Office

-1 AUG 1922

Port of

SUNDERLAND

Received at London Office

WED. 2 AUG.

No. in Survey held at

SUNDERLAND

Date, First Survey

18th Aug. 1920

Last Survey

24th July 1922

Reg. Book.

on the new steel S/S "IXIA".

(Number of Visits)

44

Master

Built at Sunderland

By whom built

Blumer & Co. (S/S N° 256)

Tons

Gross 2985

Net 1828

When built

1922

Engines made at

Sunderland

By whom made

Dickinson & Son Ltd. (N° 857)

when made

1922

Boilers made at

Sunderland

By whom made

Dickinson & Son Ltd. (N° 857)

when made

1922

Registered Horse Power

Owners

Robinson & Sons

Port belonging to

North Shields

Nom. Horse Power as per Section 28

318

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

24", 40", 65"

Length of Stroke

45"

Revs. per minute

62

Dia. of Screw shaft

as per rule 14.34"

Material of

screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

no

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

no

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

no

If two

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

no

Length of stern bush

5'-0"

Dia. of Tunnel shaft

as per rule 12.1"

as fitted 12.4"

Dia. of Crank shaft journals

as per rule 12.41"

as fitted 12.74"

Dia. of Crank pin

12 3/4"

Size of Crank webs

23 3/4" x 7 1/8"

Dia. of thrust shaft under

collars

12 3/4"

Dia. of screw

16 1/4"

Pitch of Screw

17'-6"

No. of Blades

4

State whether moveable

no

Total surface

88 sq ft

No. of Feed pumps

2

Diameter of ditto

3 1/4"

Stroke

22 1/2"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

4"

Stroke

22 1/2"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

3

Sizes of Pumps

6 1/4" x 6", 7 1/8" x 8", 6 1/2" x 18"

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

In Engine Room

4 @ 3"

In Holds, &c.

N° 1 hold - 2 @ 3", N° 2 hold - 2 @ 3"

No. of Bilge Injections

9

sizes

5"

Connected to condenser, or to circulating pump

6 P.

Is a separate Donkey Suction fitted in Engine room & size

yes. 4"

Are all the bilge suction pipes fitted with roses

yes

Are the roses in Engine room always accessible

yes

Are the staves 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

forward hold suction

How are they protected

under timber boards

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

top platform

OILERS, &c.—(Letter for record (S))

(S)

Manufacturers of Steel

John Spencer & Sons Ltd.

Total Heating Surface of Boilers

50220 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

22-9-21

No. of Certificate

3777

Can each boiler be worked separately

yes

Area of fire grate in each boiler

68 sq ft

No. and Description of Safety Valves to

each boiler

two, direct spring

Area of each valve

8.30"

Pressure to which they are adjusted

185

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

2'-0"

Mean dia. of boilers

16'-6"

Length

11'-0"

Material of shell plates

steel

Thickness

1 1/4"

Range of tensile strength

29.5-33.5 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

DR

mg. seams

DR & TR

Diameter of rivet holes in long. seams

13"

Pitch of rivets

9 1/8"

Lap of plates or width of butt straps

1-7 1/8"

Per centages of strength of longitudinal joint

rivets 96.8

plate 84.9

Working pressure of shell by rules

181

Size of manhole in shell

16" x 12"

Size of compensating ring

flanged

No. and Description of Furnaces in each boiler

3 Dighton

Material

steel

Outside diameter

4'-4"

Length of plain part

top

bottom

Thickness of plates

crown 7 1/4"

bottom 3 1/2"

Description of longitudinal joint

welded

No. of strengthening rings

—

Working pressure of furnace by the rules

181

Combustion chamber plates: Material

steel

Thickness: Sides

3/4"

Back

1 1/16"

Top

Pitch of stays to ditto: Sides

10" x 10"

Back

8" x 10 1/2"

Top

10" x 10"

If stays are fitted with nuts or riveted heads

nuts in ends

Working pressure by rules

182

Material of stays

steel

Area at smallest part

2.030"

Area supported by each stay

1000"

Working pressure by rules

182

End plates in steam space:

Material

steel

Thickness

1 1/16"

Pitch of stays

10 1/8" x 22 1/2"

How are stays secured

DN & W

Working pressure by rules

181

Material of stays

steel

Area at smallest part

7.950"

Area supported by each stay

4480"

Working pressure by rules

182

Material of Front plates at bottom

steel

Thickness

7/8"

Material of Lower back plate

steel

Thickness

1 1/16"

Greatest pitch of stays

13 3/4" x 8"

Working pressure of plate by rules

180

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2" x 4 1/2"

Material of tube plates

steel

Thickness: Front

7/8"

Back

7/8"

Mean pitch of stays

Pitch across

water spaces

14 1/2" (580P)

Working pressures by rules

249

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

20 1/2" x 1 1/8"

Length as per rule

2'-9"

Distance apart

10"

Number and pitch of stays in each

2 @ 10"

Working pressure by rules

183

Steam dome: description of joint to shell

none

% 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

IS A DONKEY BOILER FITTED? *yes*If so, is a report now forwarded? *yes*

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 big pump valves, iron and bolts of various sizes, one propeller.*

The foregoing is a correct description,
John Dickinson & Sons, Limited.

Williamson

Manufacturer.

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

1920. Aug. 12. Sep. 17. Nov. 9. Dec. 17. 1921. Feb. 19. 22. 25. Mar. 7. 10. Apr. 22. 25. May 3. July 1. 1922. Aug. 9. 17. Sep. 15. 22. Oct. 3. 31. Nov. 23. Dec. 5. 22. 1922. Jan. 30. Feb. 27. Apr. 5. May 25. 30. 31.

Is the approved plan of main boiler forwarded herewith? *yes*" " " donkey " " " *yes*

Dates of Examination of principal parts—Cylinders *3-5-21* Slides *9-8-21* Covers *3-10-21* Pistons *18-7-21* Rods *23-12-21*

Connecting rods *23-11-21* Crank shaft *6-12-21* Thrust shaft *30-1-22* Tunnel shafts *30-1-22* Screw shaft *5-4-22* Propeller *5-4-22*

Stern tube *5-4-22* Steam pipes tested *27-2-22* Engine and boiler seatings *25-5-22* Engines holding down bolts *5-7-22*

Completion of pumping arrangements *21-7-22* Boilers fixed *2-6-22* Engines tried under steam *5-7-22*

Completion of fitting sea connections *25-5-22* Stern tube *30-5-22* Screw shaft and propeller *30-5-22*

Main boiler safety valves adjusted *5-7-22* Thickness of adjusting washers *Pork bls. - F 3/8", A 1 1/2"; 5th bls. - F 5/8", A 3/8"*

Material of Crank shaft *1. Steel* Identification Mark on Do. *LLOYD'S N9857 L.C.D.* Material of Thrust shaft *1. Steel* Identification Mark on Do. *LLOYD'S N9857 L.C.D.*

Material of Tunnel shafts *1. Steel* Identification Marks on Do. *LLOYD'S N9857 L.C.D.* Material of Screw shafts *1. Steel* Identification Marks on Do. *LLOYD'S N9857 L.C.D.*

Material of Steam Pipes *Solid drawn copper* Test pressure *400 lbs per sq in*

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 *"S.A.C. 2" Sla Rpt. N° 2828*

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

The workmanship and materials are good. The machinery has been constructed under special survey and is eligible in my opinion for classification and the period LMC 7.22

It is submitted that this vessel is eligible for THE RECORD.

+ L.M.C. 7.22.

O.G.

A.H.D. 3/8/22

The amount of Entry Fee ... £ *5*
 Special ... £ *72 : 14*
 Donkey Boiler Fee ... £ :
 Travelling Expenses (if any) £ :

When applied for.

27 JUL 1922

When received.

*14/8/22**L.C. Davis*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

WED. 9 AUG. 1922

Assigned

+ L.M.C. 7.22 O.G.

MACHINERY CERT. WRITTEN.



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Lloyd's Register Foundation

SUNDERLAND.

Certificate (if required) to be sent to Committee's Minute.