

REPORT ON MACHINERY.

No. 26150.

Date of writing Report 22 JUN. 1914

When handed in at Local Office

23 JUN. 1914

Received at London Office

WED. JUN. 24 1914.

No. in Survey held at
Reg. Book.

Port of

Sunderland.

Date, First Survey

6-3-14

Last Survey

22-6-

1914

(Number of Visits)

39

on the New Steel S.S. "Ladoga"

Master A.W. Reid

Built at

Sunderland.

By whom built

S.P. Austin & Son Ltd. (243)

Tons

Gross 1917

Net 1154

When built

1914

Engines made at

Sunderland

By whom made

North Eastern Marine Eng. Co. Ltd.

when made

1914

Boilers made at

Sunderland.

By whom made

North Eastern Marine Eng. Co. Ltd.

when made

1914

Registered Horse Power

Owners

W. Thomson & Co.

Port belonging to

Leith.

Nom. Horse Power as per Section 28

1914

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

Three

No. of Cranks

Three

Dia. of Cylinders

20" x 33" x 54"

Length of Stroke

36"

Revs. per minute

12

Dia. of Screw shaft

as per rule 11.5

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

yes

If two

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

Length of stern bush

4'-3"

Dia. of Tunnel shaft

as per rule 9.94

Dia. of Crank shaft journals

as per rule 10.43

Dia. of Crank pin

10 1/2"

Size of Crank webs

16" x 6"

Dia. of thrust shaft under

collars

11"

Dia. of screw

Pitch of Screw

14'-6"

No. of Blades

4

State whether moveable

no

Total surface

65 sq

No. of Feed pumps

Two

Diameter of ditto

3"

Stroke

18"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

Two

Diameter of ditto

3 1/2"

Stroke

18"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

Two

Sizes of Pumps

10" x 11" x 10"

6" x 4" x 6"

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

In Engine Room

Two @ 3" dia

In Holds, &c.

Two @ 3 1/2" dia

No. of Bilge Injections

One size

Connected to condenser, or to circulating pump

yes

Is a separate Donkey Suction fitted in Engine room & size

yes 3 1/2"

one of each + one stand.

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

yes

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

yes

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

21.5.14

of Stern Tube

24.5.14

Screw shaft and Propeller

24.5.14

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

J. Spence & Sons Ltd.

Newburn Steel Works.

Total Heating Surface of Boilers

30,000 sq

Is Forced Draft fitted

no

No. and Description of Boilers

Two single ended.

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

15-5-14

No. of Certificate

3216

Can each boiler be worked separately

yes

Area of fire grate in each boiler

50 sq

No. and Description of Safety Valves to

each boiler

Two spring loaded

Area of each valve

4.91 sq

Smallest distance between boilers or uptakes and bunkers or woodwork

18"

Mean dia. of boilers

13'-1 1/2"

Length

10'-6"

Material of shell plates

Steel

Thickness

1 1/2"

Range of tensile strength

28 1/2 to 32 1/2

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

D.R.

long. seams

T.R.D.B.S.

Diameter of rivet holes in long. seams

1 3/16"

Pitch of rivets

9 3/8"

Top of plates or width of butt straps

18 1/2"

Per centages of strength of longitudinal joint

rivets 86.3

plate 84.3

Working pressure of shell by rules

180 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

dished

No. and Description of Furnaces in each boiler

Three daylight

Material

Steel

Outside diameter

3'-2 3/4"

Length of plain part

top

Thickness of plates

crown 1 1/2"

Description of longitudinal joint

welded

No. of strengthening rings

yes

Working pressure of furnace by the rules

195 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

3/4"

Back

25/32"

Top

Pitch of stays to ditto: Sides

12 1/2" x 8 1/4"

Back

11 1/2" x 10"

Top

12 1/2" x 8 1/4"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

180 lbs

Material of stays

Steel

Area

Diameter at smallest part

2.1"

Area supported by each stay

100 lbs

Working pressure by rules

189 lbs

Material of stays

Steel

Thickness

1 1/2"

Pitch of stays

22" x 15 5/8"

How are stays secured

D.N. Wash

Working pressure by rules

183 lbs

Material of stays

Steel

Area

Diameter at smallest part

5.94"

Area supported by each stay

344 sq

Working pressure by rules

180 lbs

Thickness

3/4"

Material of Lower back plate

Steel

Thickness

29"

Greatest pitch of stays

14 1/2" x 10"

Working pressure of plate by rules

183 lbs

Diameter of tubes

3 1/4"

Pitch of tubes

4 5/8" x 4 1/2"

Material of tube plates

Steel

Thickness: Front

3/4"

Back

3/4"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

192 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

8 1/2" x 2" x 1 1/2"

Length as per rule

2-5 1/2"

Distance apart

9'-12 1/2"

Number and pitch of stays in each

2 @ 8 1/4"

Working pressure by rules

184 lbs

Superheater or Steam chest; how connected to boiler

none

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

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

yes

VERTICAL DONKEY BOILER—Manufacturers of Steel

No.	Description				
Made at	By whom made	When made	Where fixed		
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with easing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler		Length	
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:—Two each bolts & nuts for top & bottom ends and main bearings. One set coupling bolts. One set each valves for all pumps. Assorted bolts, nuts & washers. One propeller. One air pump rod. One circulating pump rod. One set pump & springs for each piston. Two main check valves. One safety valve spring & sundries etc.

The foregoing is a correct description, NORTH EASTERN MARINE ENGINEERING CO. LTD.

Manufacturer.

S. J. Harrison, Secy

Dates of Survey while building	During progress of work in shops --	1914 Mar. 6. 10. 13. 19. 20. 24. 26. Apr. 2. 3. 4. 8. 9. 17. 21. 23. 30. May 5. 8. 11. 13. 14.
	During erection on board vessel --	15. 16. 19. 20. 21. 22. 25. 27. 28. 29. Jun. 3. 4. 5. 8. 10. 11. 16. 22.
	Total No. of visits	39.

Is the approved plan of main boiler forwarded herewith ☒ yes

" " " donkey " " " ☒ yes

Dates of Examination of principal parts—Cylinders	23-4-14	Slides	13-5-14	Covers	30-4-14	Pistons	13-5-14	Rods	8-5-14
Connecting rods	30-4-14	Crank shaft	8-5-14	Thrust shaft	7-3-14	Tunnel shafts	13-5-14	Screw shaft	25-5-14
Propeller	20-5-14	Stern tube	20-5-14	Steam pipes tested	24-5-14, 4-6-14	Engine and boiler seatings	21-5-14	Engines holding down bolts	8-6-14
Completion of pumping arrangements	16-6-14	Boilers fixed	5-6-14	Engines tried under steam	11-6-14				
Main boiler safety valves adjusted	11-6-14	Thickness of adjusting washers	Port Bl. F $\frac{1}{2}$ " A $\frac{3}{32}$ ", Star Bl. F $\frac{1}{2}$ " A $\frac{3}{32}$ "						
Material of Crank shaft	Steel	Identification Mark on Do.	3840-1 M.B.	Material of Thrust shaft	Steel	Identification Mark on Do.	3839 M.B.		
Material of Tunnel shafts	Steel	Identification Marks on Do.	323-4 A.L.	Material of Screw shafts	Steel	Identification Marks on Do.	288 A.L.		
Material of Steam Pipes	Solid drawn steel 4" dia x 1/2" thick			Test pressure	540 lbs per sq. inch				

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

The machinery of this vessel has been built under special survey the materials & workmanship are of good quality & the hydraulic tests of the boilers proved satisfactory. The whole of the machinery has been securely fixed in place & tried under steam & is in good & safe working condition & eligible in my opinion to be classed & have record **LM.C. 6-14** in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 6.14.

W. J. D. 26/6/14

William D. Butler

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee	£ 2	When applied for,	23. JUN. 1914.
Special	£ 29	When received,	3/7/14
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£		

Committee's Minute

FRI. JUN. 26. 1914

Assigned

+ L.M.C. 6.14.

MACHINERY CERTIFICATE WRITTEN



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Certificate (if required) to be sent to

(The Surveyors are requested not to write on or below the space for Committee's Minute.)