

REPORT ON MACHINERY.

No. 26732

Date of writing Report 22nd Sept 1913 When handed in at Local Office

22-9-13 Port of Hull

Received at London Office

WED. SEP. 24, 1913

No. in Survey held at Hull
Reg. Book.Date, First Survey Aug 28thLast Survey Sep. 10th 1913No. of Vessels on the steel sea 11th Prince Leo N. 2254 Reg. N. 2252 Boiler.Tons { Gross 218
Net 86

Master Built at Selby.

By whom built Cochrane & Co. Ltd.

When built 1913.

Engines made at Hull.

By whom made

Amos & Smith Ltd.

when made

1913.

Boilers made at Hull.

By whom made

Amos & Smith Ltd.

when made

1913.

Registered Horse Power

Owners

H. Bernstein.

Port belonging to

Grimsby.

Nom. Horse Power as per Section 28

68

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 12 $\frac{1}{2}$ -21-34

Length of Stroke 24.

Revs. per minute

Dia. of Screw shaft

as per rule 7.23.

Material of

J.

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

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

yes.

If two

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

Length of stern bush 34"

Dia. of Tunnel shaft

as per rule

6.48

Dia. of Crank shaft journals

as per rule

6.8.

Dia. of Crank pin

7

Size of Crank web

3 $\frac{3}{4}$ x 4 $\frac{3}{4}$

of thrust shaft under

collars 7

Dia. of screw

8-9

Pitch of Screw

11-0

No. of Blades

4.

State whether moveable

no.

Total surface

29.5

No. of Feed pumps

1.

Diameter of ditto

2 $\frac{3}{8}$ "

Stroke

12

Can one be overhauled while the other is at work

yes.

No. of Bilge pumps

1.

Diameter of ditto

2 $\frac{3}{8}$ "

Stroke

12

Can one be overhauled while the other is at work

yes.

No. of Donkey Engines

1.

Sizes of Pumps

6-3-6.

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

In Engine Room

2-2" One forward, one aft.

In Holds, &c.

1-2" from forward peak and

No. of Bilge Injections

1

size

3"

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size 3" ejector.

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

Held suction.

How are they protected

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

31.7.13. of Stern Tube

31.7.13. Screw shaft and Propeller

31.7.13.

Is the Screw Shaft Tunnel watertight

yes.

Is it fitted with a watertight door

yes.

worked from

BOILERS, &c.—(Letter for record)

S.

Manufacturers of Steel

Carnegie Steel Co.

Total Heating Surface of Boilers

1086

Is Forced Draft fitted

no.

No. and Description of Boilers

One single-ended.

Working Pressure

200 lbs.

Tested by hydraulic pressure to

400 lbs.

Date of test

5.3.13.

No. of Certificate

1966.

Can each boiler be worked separately

yes.

Area of fire grate in each boiler

32.5

No. and Description of Safety Valves to

each boiler 2 Spring-loaded.

Area of each valve

4.9"

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

7"

Mean dia. of boilers

12-0

Length

10-0

Material of shell plates

S.

Thickness

3 $\frac{1}{2}$

Range of tensile strength

29-33.

Are the shell plates welded or flanged

yes.

Descrip. of riveting: cir. seams

lap

long. seams

10 B & R.

Diameter of rivet holes in long. seams

1 $\frac{3}{32}$

Pitch of rivets

7 $\frac{3}{8}$

Lap of plates or width of butt straps

16 to 16.

Per centages of strength of longitudinal joint

rivets

86.4.

plate

85.2

Working pressure of shell by rules

210.

Size of manhole in shell

16 x 12.

Size of compensating ring

40 x 30 x 1 $\frac{3}{32}$

No. and Description of Furnaces in each boiler

2 plain

Material

S.

Outside diameter

3-6 $\frac{5}{8}$

Length of plain part

top 76.5.

Thickness of plates

crown 13.

bottom 16.

Description of longitudinal joint

welded.

No. of strengthening rings

one.

Working pressure of furnace by the rules

200.

Combustion chamber plates: Material

S.

Thickness: Sides

3 $\frac{1}{4}$

Back

2 $\frac{3}{32}$

Top

1 $\frac{1}{16}$

Bottom

3 $\frac{1}{4}$

Pitch of stays to ditto: Sides

8 $\frac{1}{2}$ x 9 $\frac{1}{2}$

Back

8 $\frac{1}{2}$ x 9

Top

8 x 7

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

230

Material of stays

S.

Diameter at smallest part

2.06

Area supported by each stay

Working pressure by rules

210

End plates in steam space:

Material of stays

S.

Material

S.

Thickness

1 $\frac{1}{2}$

Pitch of stays

16 x 15 $\frac{1}{4}$

How are stays secured

Nuts

Working pressure by rules

205.

Diameter at smallest part

6.1.

Area supported by each stay

24.4

Working pressure by rules

260

Material of Front plates at bottom

S.

Thickness

1

Material of Lower back plate

S.

Thickness

1

Greatest pitch of stays

12 $\frac{1}{4}$ x 9.

Working pressure of plate by rules

283.

Diameter of tubes

3 $\frac{1}{2}$

Pitch of tubes

4 $\frac{3}{4}$ x 5.

Material of tube plates

S.

Thickness: Front

1

Back

7 $\frac{1}{8}$

Mean pitch of stays

9 $\frac{1}{2}$ x 12.5.

Pitch across wide water spaces

13 $\frac{3}{4}$

Working pressures by rules

203.

Girders to Chamber tops: Material

S.

thickness of girder at centre

8 x 2

Length as per rule

2-8 $\frac{3}{4}$

Distance apart

8

Number and pitch of stays in each

3-7"

Working pressure by rules

202

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

separately

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

yes.

yes.

yes.

yes.

yes.

yes.

yes.

yes.

yes.

Working pressure of end plates

Area of safety valves to superheater

Working pressure by rules

End plates: Thickness

How stayed

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 top & bottom end connecting rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each feed & bilge pump valves, iron of various sizes, a quantity of assorted bolts & nuts.

FOR AMOS & SMITH LTD.

The foregoing is a correct description,

Manufacturer.

W. S. Wade

Managing Director.

Dates of Survey while building	During progress of work in shops	1912: Aug 28, 30, Sep. 23, Oct 3, Nov 7, Dec 10, 13, 19, 23, 31, 1913: Jan 10, 15, 21
	During erection on board vessel	27, 28 Feb. 5, 8, 12, 24, Mar 5, 7, 14, May 18, July 16, 21, 29, 31, Aug 13, 29, Sep 2, 3, 5, 10
Total No. of visits		34

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

Dates of Examination of principal parts—Cylinders	16.7.13.	Slides	16.7.13.	Covers	16.7.13.	Pistons	13.8.13.	Rods	13.8.13.
Connecting rods	13.8.13.	Crank shaft	21.7.13.	Thrust shaft	21.7.13.	Tunnel shafts	21.7.13.	Screw shaft	21.7.13.
Propeller	21.7.13.	Stern tube	21.7.13.	Steam pipes tested	3.9.13.	Engine and boiler seatings	31.7.13.	Engines holding down bolts	2.9.13.
Completion of pumping arrangements	2.9.13.	Boilers fixed	2.9.13.	Engines tried under steam	5.9.13.	Main boiler safety valves adjusted	5.9.13.	Thickness of adjusting washers	Pr 3/8" Sr 7/16"
Material of Crank shaft	S.	Identification Mark on Do.	1170.	Material of Thrust shaft	S.	Identification Mark on Do.	1170.	Material of Tunnel shafts	"
Material of Screw shafts	S.	Identification Marks on Do.	"	Material of Steam Pipes	Solid drawn copper.	Test pressure	400 lbs.		

General Remarks (State quality of workmanship, opinions as to class, &c.) The engines & boiler of this vessel have been constructed under special survey in accordance with the rules. The materials & workmanship are sound and good. The boiler tested by hydraulic pressure, and with the engines secured on board & tested under steam. They are now in good order & safe-working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of +LMC 9.13 in the Register book.

The Boiler originally intended for No 2252 has been fitted in this vessel. The N.P. cylinder has been bored to 12 1/2 dia. The Boiler Safety valves by request of owners, were adjusted to 185 lbs. It is submitted that this vessel is eligible for THE RECORD. + LMC 9.13.

The amount of Entry Fee	£ 1	When applied for,	22/9/13
Special	£ 10 4	When received,	30/9/13
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£ 2 8		

Committee's Minute

FRI. SEP 26 1913

Assigned

+ LMC 9.13

MANAGEMENT CERTIFICATE
WRITTEN

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



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Foundation