

Rpt. 4.

REPORT ON MACHINERY

No. 62138

Received at London Office

WED APR 24 1912

Date of writing Report

10

When handed in at Local Office

10

Port of

NEWCASTLE-ON-TYNE.

No. in Survey held at

Newcastle

Date, First Survey

21st Sept 1911

Last Survey

13th April 1912

Reg. Book

122 Upon the Machinery of the S.S. *Olio*

(Number of Visits

50)

Gross

5576

Net

3362

Master

Built at

Newcastle

By whom built

Armstrong Whitworth & Co.

When built

1912

Engines made at

Newcastle

By whom made

North Eastern Marine Eng. & Co. when made

Boilers made at

By whom made

when made

Registered Horse Power

Owners

Deutsch-Amerik Petroleum Ges Port belonging to Hamburg

Nom. Horse Power as per Section 28

505

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Quadruple

No. of Cylinders

4

No. of Cranks

4

Dia. of Cylinders

23", 32½", 47" & 68"

Length of Stroke

48"

Revs. per minute

75

Dia. of Screw shaft

as per rule

14½"

Material of

screw shaft

iron

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

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

Length of stern bush

5'-5"

Dia. of Tunnel shaft

as per rule

12½"

as fitted

13½"

Dia. of Crank shaft journals

as per rule

13½"

as fitted

13½"

Dia. of Crank pin

13½"

Size of Crank webs

29½" x 8½"

Dia. of thrust shaft under

collars

13½"

Dia. of screw

17'-6"

Pitch of Screw

17'-3"

No. of Blades

4

State whether moveable

no

Total surface

104

No. of Feed pumps

2

Diameter of ditto

8"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4½"

Stroke

26"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

2

Sizes of Pumps

7½" x 5" x 6"

9" x 6" x 10"

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

In Engine Room

5 of 3½" dia & 2 of 3" in bunkers

In Holds, &c.

Oil cargo pumps.

No. of Bilge Injections

1

sizes

6"

Connected to condenser, or to circulating pump

pump

Is a separate Donkey Suction fitted in Engine room & size

Yes, 2 of 3½"

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 sized 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

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

22/2/12

of Stern Tube

22/2/12

Screw shaft and Propeller

8/3/12

Is the Screw Shaft Tunnel watertight

None

Is it fitted with a watertight door

No

worked from

Engine room

BOILERS, &c.—(Letter for record

P)

Manufacturers of Steel

J. Spencer & Sons

Total Heating Surface of Boilers

7377

Is Forced Draft fitted

Yes

No. and Description of Boilers

3

Single-ended

Working Pressure

220 lbs

Tested by hydraulic pressure to

440 lbs

Date of test

30/3/12

No. of Certificate

826498265

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

54.4

No. and Description of Safety Valves to

each boiler

2 direct spring

Area of each valve

11.04

Pressure to which they are adjusted

225 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

1'-10½"

Mean dia. of boilers

15'-0"

Length

12'-0"

Material of shell plates

steel

Thickness

1½"

Range of tensile strength

28½-32 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

d.r. lap

long. seams

Z.r. d. butt

Diameter of rivet holes in long. seams

1½"

Pitch of rivets

10"

Lap of plates or width of butt straps

21¾"

Per centages of strength of longitudinal joint

rivets

87.6

plate

85.0

Working pressure of shell by rules

234.2 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

flanged

No. and Description of Furnaces in each boiler

3

suspension

Material

steel

Outside diameter

46"

Length of plain part

top

Thickness of plates

crown

1½"

Description of longitudinal joint

welded

No. of strengthening rings

Yes

Working pressure of furnace by the rules

246 lbs

Combustion chamber plates: Material

steel

Thickness: Sides

2½"

Back

2½"

Top

2½"

Bottom

1½"

Pitch of stays to ditto: Sides

8" x 8"

Back

8" x 8"

Top

8" x 8"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

254 lbs

Material of stays

steel

Diameter at smallest part

1½"

Area supported by each stay

64

Working pressure by rules

243 lbs

End plates in steam space:

Material

steel

Thickness

1½"

Pitch of stays

21" x 15½"

How are stays secured

d. nuts & w.

Working pressure by rules

224

Material of stays

steel

Diameter at smallest part

8" x 29"

Area supported by each stay

320.25

Working pressure by rules

268 lbs

Material of Front plates at bottom

steel

Thickness

1½"

Material of Lower back plate

steel

Thickness

1½"

Greatest pitch of stays

16" x 8"

Working pressure of plate by rules

230 lbs

Diameter of tubes

2½"

Pitch of tubes

3¾" x 3¾"

Material of tube plates

steel

Thickness: Front

1½"

Back

1½"

Mean pitch of stays

7½" x 7½"

Pitch across wide water spaces

14½"

Working pressures by rules

220 lbs

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

9¾" x 2"

Length as per rule

36"

Distance apart

8"

Number and pitch of stays in each

3 of 8"

Working pressure by rules

222 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

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	
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:— 2 top end & 2 bottom end bolts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed & bilge pump valves, a quantity of bolts nuts & assorted iron; 1 propeller shaft, 1 propeller valve spindle & eccentric strap, air & circulating pump rods & minor parts.

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

Manufacturer.		1911
Dates of Survey while building	During progress of work in shops—	Secretary.
1912	27. 28. Jan. 4. 9. 13. 17. 18. 29. 30. 31. Feb. 1. 6. 8. 12. 14. 17. 19. 22. 27. 29. Mar. 5. 6. 8. 19. 20. 28. Apr. 2. 11. 13.	
Total No. of visits	50	Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders	1/2/12	Slides	29/2/12	Covers	18/1/12	Pistons	17/1/12	Rods	9/1/12
Connecting rods	17/1/12	Crank shaft	19/12/11	Thrust shaft	8/12/11	Tunnel shafts	✓	Screw shaft	27/4/12
Stern tube	28/12/11	Steam pipes tested	26/2/12	Engine and boiler seatings	5/3/12	Engines holding down bolts	11/4/12		
Completion of pumping arrangements	13/4/12	Boilers fixed	11/4/12	Engines tried under steam	13/4/12				
Main boiler safety valves adjusted	13/4/12	Thickness of adjusting washers	PP 3/8" S 3/8" S.P. 3/8" S 3/16" Forward P 1/2" S 5/16"						
Material of Crank shaft	Steel	Identification Mark on Do.	4/12/12	Material of Thrust shaft	Steel	Identification Mark on Do.	11/12/11		
Material of Tunnel shafts	none	Identification Marks on Do.	✓	Material of Screw shafts	Iron	Identification Marks on Do.	4/12/11		
Material of Steam Pipes	Lap welded steel	Test pressure	660 lbs						

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

The machinery of this vessel has been built under special survey, the materials used are good, and the workmanship is satisfactory, it has been properly fitted on board and secured, and the engines have been tried under steam.

In my opinion the vessel is eligible to have the record of L.M.C. 4.12.

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

+LMC 4.12

F.D.

ARSL

28M
25/4/12

The amount of Entry Fee	£ 3 :	When applied for,
Special	£ 45 : 5 :	APR 23 1912
Donkey Boiler Fee	£ :	When received,
Travelling Expenses (if any)	£ :	27. 4. 12

Committee's Minute

Assigned

FRI APR 20 1912

+LMC 4.12

FD

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



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Lloyd's Register
Foundation

NEWCASTLE ON TYNE

Certificate (if required) to be sent to