

Rpt. 4.

REPORT ON MACHINERY.

No. 68921

Date of writing Report

10

When handed in at Local Office

JUL 7 1916

Received at London Office

MON. 10 JUL 1916

No. in Survey held at
Reg. Book.

Newcastle on Tyne

Date, First Survey

Port of

NEWCASTLE-ON-TYNE

Last Survey

3rd July 1916

(Number of Plates

Gross 5700 5694
Net 8800 3335

Master

Built at Newcastle

By whom built

Swan Hunter & Wigham Richardson

Tons

When built

1916

Engines made at

Newcastle on Tyne

By whom made

Swan Hunter & Wigham Richardson

When made

1916

Boilers made at

Newcastle on Tyne

By whom made

Swan Hunter & Wigham Richardson

When made

1916

Registered Horse Power

Owners Anglo-Saxon Petroleum Coy. Ltd.

Port belonging to

London

Nom. Horse Power as per Section 28

518

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

Three

No. of Cranks

Three

Dia. of Cylinders

24" 45" 74"

Length of Stroke

48"

Revs. per minute

72

Dia. of Screw shaft

as per rule 14.9"

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 ☒ Yes.

Dia. of Tunnel shaft

as per rule 12.396"

Dia. of Crank shaft journals

as per rule 14.046"

Dia. of Crank pin

14.5"

Size of Crank web

22" x 9"

Dia. of thrust shaft under

collars

14.8"

Dia. of screw

18.0"

Pitch of Screw

17.6"

No. of Blades

4

State whether moveable

No

Total surface

95.59 sq. ft.

No. of Feed pumps

2

Diameter of ditto

4"

Stroke

26"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4"

Stroke

26"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

1

SIZES OF PUMPS

8" x 10" x 10"

7" x 5" x 5"

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

In Holds, &c.

Cross Runker 2-3 1/2" dia

In Engine Room

Three - 3 1/2" dia

No. of Bilge Injections

1

sizes

9"

Connected to condenser, or to circulating pump

C Pump

Is a separate Donkey Suction fitted in Engine room

of size

Yes

3 1/2"

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

Yes

Are they Valves or Cocks

Both

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

Oil fuel suction pipes

How are they protected

Wood Ceiling

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

Yes

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

5/4/16

of Stern Tube

5/4/16

Screw shaft and Propeller

5/4/16

Is the Screw Shaft Tunnel watertight

None

Is it fitted with a watertight door

Yes

worked from

No

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

J. Spencer & Sons Ltd.

Total Heating Surface of Boilers

4554 sq. ft.

Is Forced Draft fitted

Yes

No. and Description of Boilers

Three

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

20th June 1916

No. of Certificate

8835

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

63.589 sq. ft.

No. and Description of Safety Valves to

each boiler

2

Area of each valve

9.62 sq. in.

Pressure to which they are adjusted

185 lbs

Smallest distance between boilers or uptakes and bunkers or woodwork

2' 3"

Mean dia. of boilers

15' 6"

Length

11' 7 1/2"

Material of shell plates

Steel

Thickness

1 1/8"

Range of tensile strength

29 1/2 to 32 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

Lap: Double riv.

long. seams

2 riv. Straps

Diameter of rivet holes in long. seams

1 1/8"

Pitch of rivets

8" 4 1/2"

Top of plates or width of butt straps

17 1/2"

Per centages of strength of longitudinal joint

plate 85.38

Working pressure of shell by rules

181 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

Flanged Ring

No. and Description of Furnaces in each boiler

3: Deighton

Material

Steel

Outside diameter

48 1/4"

Length of plain part

top 4' 8 1/2"

Thickness of plates

crown 9"

Description of longitudinal joint

Weld

No. of strengthening rings

None

Working pressure of furnace by the rules

181 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

25"

Back

25"

Top

25"

Pitch of stays to ditto: Sides

9 1/2" x 9"

Back

9 1/2" x 9"

Top

9 1/2" x 9"

If stays are fitted with nuts or riveted heads

Riveted

Working pressure by rules

181 lbs

Material of stays

Steel

Diameter at smallest part

2.03"

Area supported by each stay

85 1/2 sq. in.

Working pressure by rules

213 lbs

End plates in steam space:

Material

Steel

Thickness

1 1/2"

Pitch of stays

21 1/2" x 22 1/2"

How are stays secured

Shackles

Working pressure by rules

182 lbs

Material of Front plates at bottom

Steel

Thickness

3 1/2"

Material of Lower back plate

Steel

Thickness

1"

Greatest pitch of stays

14 1/4"

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2" x 4 1/2"

Material of tube plates

Steel

Thickness: Front

3 1/2"

Back

16"

Pitch across wide water spaces

14 1/4"

Working pressures by rules

186 lbs

Girders to Chamber tops: Material

Steel

Depth and

Thickness of girder at centre

10 1/4" x 14"

Length as per rule

34"

Working pressure by rules

186 lbs

Superheater

Steam chest; how connected to boiler

By pipes

Can the superheater be shut off and the boiler worked

separately

No

Diameter

Length

Thickness of shell plates

Material

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Yes

13 sq. in.

Are they fitted with easing gear

Yes

W629-0041

IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— one set Piston Packing Rings for each size piston
1 Air pump rod 1 Feed pump ram 1 Belge pump ram 1 set Crosshead Brasses 1 Crank
shaft 1 Propeller shaft 2 Undr. Spindles 1 Centrifugal pump impeller 1 set Coupling Bolts
1 set Main Bearing Bolts 1 set Crank pin Bolts 1 set P.R. Crosshead Bolts 1 Eccentric Strap
1 Slide Block for Reversing Gear 1 set Studs for Piston Rod Glands 18 Joint Ring Studs
5 sets Air pump valves 1 set Feed pump valves & Seats 2 Belge pump valves
1 Air pump Guard 1 set Eccentric Packing Rings for Piston Rods 1 set ditto for Slide
Spindles Bolts nuts & Iron of various sizes

The foregoing is a correct description,

SWAN, HUNTER & WIGHAM LTD.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 9.11.16 22.30.16 1.5.17 15.19.21 Aug. 5.19 13.16 25.27.30.16 1.2.3.6.8.11.14.17.21
During erection on board vessel -- 24.27.29.10.1.4.8.11.13.15.20.22.25.28.30.11.13.15.18.19.22.24.26.29.30. Dec. 1.2.3.6.8.11.14.17.21
Total No. of visits 119 Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 14/2/16 Slides 29/3/16 Covers 3/7/16 Pistons 14/2/16 Rods 13/1/16
Connecting rods 14/2/16 Crank shaft See Report Thrust shaft 5/4/15 Tunnel shafts 23/6/15 Screw shaft 29/9/15 Propeller 17/4/16
Stern tube 1/2/16 Steam pipes tested 30/6/16 Engine and boiler seatings 5/4/16 Engines holding down bolts 14/5/16
Completion of pumping arrangements 3/4/16 Boilers fixed 3/4/16 Engines tried under steam 3/7/16
Main boiler safety valves adjusted 3/4/16 Thickness of adjusting washers SB 5 1/2" P 1 1/2" PB 4 1/2" P 1 1/2" Form B 1 1/2" P 1 1/2"
Material of Crank shaft Steel Identification Mark on Do. 4302 Material of Thrust shaft Steel Identification Mark on Do. 4377
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. 4433
Material of Steam Pipes Steel Test pressure 540 lbs
Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150°F. Yes
Have the requirements of Section 49 of the Rules been complied with Yes

Is this machinery duplicate of a previous case. If so, state name of vessel.

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

The Engines and Boilers of this vessel were built under Special Survey and the materials and workmanship are good. When completed they were examined under steam and found to work satisfactorily. The machinery throughout is now in good and efficient condition and eligible in my opinion to have the record of LMC 7.16 marked in the Society's Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 7.16 FD

Fitted for oil fuel 7.16. F.P. above 150°F.

The amount of Entry Fee ... £ 3 : : When applied for,
Special ... £ 45 : 18 :
Donkey Boiler Fee ...
Travelling Expenses (if any) £

Committee's Minute TUE JUL 11 1916

Assigned

MACHINERY CERTIFICATE WRITTEN.

+ LMC 7.16 F.D.
Fitted for oil fuel 7.16
F.P. above 150°F

MACHINERY CERTIFICATE WRITTEN.

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