

REPORT ON MACHINERY

No. 27130
TUE 1 JAN 1918

Received at London Office

Date of writing Report 28-12-17 When handed in at Local Office 29-12-17 Port of SUNDERLAND

No. in Survey held at
Leg. Book.

SUNDERLAND

Date, First Survey

28 Mar '17 Last Survey

24-12-1917

No. 69 on the new steel S/S "SUNNIYA"

(Number of Visits)

Gross 1913

Net 1107

Master

Built at Sunderland

By whom built

J. Brown & Sons Ltd (S/S No. 161)

When built 1917

Engines made at Sunderland

By whom made

North Eastern Marine Eng Co Ltd (No. 2294)

when made 1917

Boilers made at Sunderland

By whom made

North Eastern Marine Eng Co Ltd (No. 2294)

when made 1917

Registered Horse Power

Owners E.R. Newbigin

Port belonging to Newcastle

Nom. Horse Power as per Section 28

199

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

20 1/2 - 33 - 54

Length of Stroke

39

Revs. per minute

70

Dia. of Screw shaft

as per rule 11.81

Material of screw shaft

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

Is 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

Length of stern bush

3-11 1/2

Dia. of Tunnel shaft

as per rule 10.32

Dia. of Crank shaft journals

as per rule 10.82

Dia. of Crank pin

10 1/2

Size of Crank webs

16 1/2 x 6 3/4

Dia. of thrust shaft under

collars

10 1/8

Dia. of screw

14-7 1/2

Pitch of Screw

15-6

No. of Blades

4

State whether moveable

no

Total surface

68 ft

No. of Feed pumps

2

Diameter of ditto

3"

Stroke

1-9"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

3 1/2"

Stroke

1-9"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

7 1/2 x 9

6 1/2 x 6

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

In Engine Room

Three @ 2 1/2"

In Holds, &c. Forward hold - 2 @ 2 1/2" After hold -

2 @ 2 1/2" Tunnel well - 1 @ 2 1/2"

No. of Bilge Injections

one size

4" Connected to condenser, or to circulating pump

6 P.

Is a separate Donkey Suction fitted in Engine room & size

yes, 3"

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

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

24-9-17

of Stern Tube

27-10-17

Screw shaft and Propeller

8-11-17

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

Top platform

BOILERS, &c.—(Letter for record)

(S)

Manufacturers of Steel

John Spence & Sons Ltd

Total Heating Surface of Boilers

3092 ft

Is Forced Draft fitted

no

No. and Description of Boilers

Two single ended marine

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test

25-5-17

No. of Certificate

3407

Can each boiler be worked separately

yes

Area of fire grate in each boiler

38.5 ft

No. and Description of Safety Valves to

each boiler

Two direct spring

Area of each valve

3-9760"

Pressure to which they are adjusted

185

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

1-6"

Mean dia. of boilers

13-0"

Length

10-6"

Material of shell plates

steel

Thickness

1 1/2"

Range of tensile strength

28 1/2 - 38

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

DR

Long. seams

NBS. T.R.

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

9 1/2"

Length of plates or width of butt straps

19"

Per centages of strength of longitudinal joint

rivets 87.5%

plate 85.6%

Working pressure of shell by rules

180

Size of manhole in shell

16 x 12"

Size of compensating ring

flanged

No. and Description of Furnaces in each boiler

2 Daington

Material

steel

Length of plain part

top

bottom

Thickness of plates

crown 11"

bottom 8 1/2"

Description of longitudinal joint

welded

No. of strengthening rings

Working pressure of furnace by the rules

180

Combustion chamber plates: Material

steel

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Bottom

15/16"

Pitch of stays to ditto: Sides

11 1/8 x 8 1/2"

Back

10 1/8 x 10 1/2"

Top

11 x 8 1/2"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

180

Material of stays

steel

Diameter at smallest part

2 7/8"

Area supported by each stay

1180"

Working pressure by rules

182

End plates in steam space

Material

steel

Thickness

1 1/2"

Pitch of stays

22 x 18"

How are stays secured

by wash

Working pressure by rules

183

Material of stays

steel

Diameter at smallest part

8"

Area supported by each stay

3960"

Working pressure by rules

180

Material of Front plates at bottom

steel

Thickness

3/4"

Material of Lower back plate

steel

Thickness

3/4"

Greatest pitch of stays

14 3/4 x 10 3/4"

Working pressure of plate by rules

193

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/6 x 4 3/4"

Material of tube plates

steel

Thickness: Front

3/4"

Back

3/4"

Mean pitch of stays

10.6"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

190

Girders to Chamber tops: Material

steel

thickness of girder at centre

9 1/2 x 1 1/2"

Length as per rule

30 1/2"

Distance apart

11"

Number and pitch of stays in each

2 @ 8 1/2"

Working pressure by rules

186

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

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

Lloyd's Register

Foundation

100-007

2557

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

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 bilge pump valves, iron and bolts of various sizes.

The foregoing is a correct description;

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LTD.

Geo. J. Weir

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1917 Mar 12 Apr 22 May 23 25 Jul 14 Sep 14 18 20 25 Oct 4 5 9 10 11 12 16 18 22 23 26 27 29 31
During erection on board vessel -- Nov 1 2 5 8 9 12 27 Dec 12 17 18 24
Total No. of visits 35
Is the approved plan of main boiler forwarded herewith Yes ✓
" " " donkey " " "

Dates of Examination of principal parts—Cylinders 30-10-17 Slides 29-10-17 Covers 23-10-17 Pistons 24-10-17 Rods 2-11-17
Connecting rods 2-11-17 Crank shaft 1-11-17 Thrust shaft 16-10-17 Tunnel shafts 30-10-17 Screw shaft 30-10-17 Propeller 2-11-17
Stern tube 22-10-17 Steam pipes tested 25-9-17 & 12-12-17 Engine and boiler seatings 5-11-17 Engines holding down bolts 12-12-17
Completion of pumping arrangements 24-12-17 Boilers fixed 17-12-17 Engines tried under steam 18-12-17
Main boiler safety valves adjusted 18-12-17 Thickness of adjusting washers P.F. 3/32" A.E. 5/16" S-bolts 5/16"
Material of Crank shaft S.M. Steel Identification Mark on Do. 1-11-17 C.C. Material of Thrust shaft S.M. Steel Identification Mark on Do. 16-10-17 C.C.
Material of Tunnel shafts S.M. Steel Identification Marks on Do. 30-10-17 C.C. Material of Screw shafts S.M. Steel Identification Marks on Do. 30-10-17 C.C.
Material of Steam Pipes Lapwelded steel ✓ Test pressure 540 lb/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 no If so, state name of vessel ✓

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

The materials and workmanship are good.

The machinery has been constructed under special survey and is eligible in my opinion for classification and the record + LMC 12.17.

It is submitted that
this vessel is eligible for
THE RECORD + LMC 12.17.

The amount of Entry Fee ... £ 2 : : When applied for,
Special ... £ 29 : 17 : 27/12/1917
Donkey Boiler Fee ... £ : : When received, 24-1-1918
Travelling Expenses (if any) £ : : 31-1-18

Committee's Minute

Assigned

+ LMC 12.17

FRI: 4-JAN. 1918

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



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