

Received at London Office

Date of writing Report

When handed in at Local Office

6.11.17 Port of

SUNDERLAND

No. in Survey held at
Reg. Book.

SUNDERLAND

Date, First Survey

18 Jan'y 1916 Last Survey 30 October 1917

(Number of Visits)

913 on the new steel S/S "MENDOCINO"

Gross 7020

Net 4420

Master

Built at Sunderland

By whom built Sir J. Laing & Sons Ltd (S/S N° 161)

When built 1917

Engines made at

Sunderland

By whom made

George Black Ltd (N° 1042)

when made

1917

Boilers made at

do.

By whom made

George Black Ltd (N° 1042)

when made

1917

Registered Horse Power

Owners

E. M. Cohen

Port belonging to

London

Nom. Horse Power as per Section 28

559

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

27"-45"-74"

Length of Stroke

54"

Revs. per minute

74"

Dia. of Screw shaft

as per rule 15.55"

Material of

J. 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

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

If two

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

Length of stern bush

5'-2 1/2"

Dia. of Tunnel shaft

as per rule 13.95"

Dia. of Crank shaft journals

as per rule 14.63"

Dia. of Crank pin

14 3/4"

Size of Crank webs

10" x 23 1/2"

Dia. of thrust shaft under

collars

14 1/2"

Dia. of screw

18'-9"

Pitch of Screw

17'-0"

No. of Blades

4

State whether moveable

no

Total surface

108 sq

No. of Feed pumps

2

Diameter of ditto

8"

Stroke

21"

Can one be overhauled while the other is at work

yes

Woodson's (Steam cyl 10 1/2")

No. of Bilge pumps

2

Diameter of ditto

5"

Stroke

30"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

9 1/2 x 10 x 10

9 1/2 x 10 x 10

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

In Engine Room

3 @ 3 1/2"

In Holds, &c. longhold (gal) 2 @ 2 1/2" connected to

Ballast pumps in the hold

No. of Bilge Injections

1

sizes

8"

Connected to condenser, or to circulating pump

b.p.

Is a separate Donkey Suction fitted in Engine room & size

yes, 4"

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 pump discharge

all above except oil fuel

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

22-1-17

of Stern Tube

22-8-17

Screw shaft and Propeller

22-8-17

Is the Screw Shaft Tunnel watertight

none

Is it fitted with a watertight door

yes

worked from

BOILERS, &c.—(Letter for record 5)

Manufacturers of Steel

John Spencer & Sons Ltd

Total Heating Surface of Boilers

8248 sq

Is Forced Draft fitted

yes

No. and Description of Boilers

4 single ended marine

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test

5-6-17

No. of Certificate

3408

Can each boiler be worked separately

yes

Area of fire grate in each boiler

49 sq

No. and Description of Safety Valves to

each boiler

two direct spring

Area of each valve

8.950"

Pressure to which they are adjusted

185

Are they fitted with easing gear

yes

Smallest distance between boilers and bunkers

1'-6"

Mean dia. of boilers

13'-9"

Length

11'-9"

Material of shell plates

steel

Thickness

1 5/8"

Range of tensile strength

29-32 1/2

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

DR

long. seams

DRS. TR

Diameter of rivet holes in long. seams

1 1/8"

Pitch of rivets

7 3/4"

Lap of plates or width of butt straps

17 1/8"

Per centages of strength of longitudinal joint

rivets

88

Working pressure of shell by rules

185

Size of manhole in shell

16" x 12"

Size of compensating ring

8 x 1 1/2"

No. and Description of Furnaces in each boiler

3 horizontal

Material

steel

Outside diameter

3'-5 1/2"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

Description of longitudinal joint

welded

No. of strengthening rings

none

Working pressure of furnace by the rules

182

Combustion chamber plates: Material

steel

Thickness: Sides

13"

Back

3/4"

Top

25"

Bottom

13"

Pitch of stays to ditto: Sides

10 3/4" x 10 1/4"

Back

10 1/2" x 10"

Top

10 1/2" x 11"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

181

Material of stays

steel

Diameter at smallest part

2.360"

Area supported by each stay

110 sq

Working pressure by rules

192

End plates in steam space

Material

steel

Thickness

1 1/2"

Pitch of stays

18" x 19 1/8"

How are stays secured

D.N.

Working pressure by rules

185

Diameter at smallest part

5.940"

Area supported by each stay

339 sq

Working pressure by rules

182

Material of Front plates at bottom

steel

Thickness

15/16"

Material of Lower back plate

steel

Thickness

15/16"

Greatest pitch of stays

14 3/4" x 10 1/2"

Working pressure of plate by rules

186

Diameter of tubes

2 1/2"

Pitch of tubes

3 3/4" x 3 5/8"

Material of tube plates

steel

Thickness: Front

15/16"

Back

3/4"

Mean pitch of stays

9 1/4"

Pitch across wide water spaces

13 1/2"

Working pressures by rules

185

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

Working pressure by rules

181

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

Is a Report also sent on the Hull of the Ship?

3m.114 T.

IS A DONKEY BOILER FITTED? no

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, one
pair of top and bottom end bearings, one valve spindle, one eccentric strap, one
propeller and iron and bolts of various sizes

The foregoing is a correct description,
FOR GEORGE CLARK LIMITED.

W. S. Spence

Manufacturer.

Dates of Survey while building	{	During progress of work in shops - -	<u>1916 Jan 18 Feb 11 Mar 17 May 5 Jun 13 Jul 21 Aug 29 Oct 19 Dec 11 (1917) Jan 22 24 25 Feb 1 28 Mar 8 12 16 22 26 27 29</u>
		During erection on board vessel - - -	<u>Apr 2 3 12 17 26 30 May 3 4 10 11 30 Jun 5 8 11 21 25 Jul 2 4 5 12 13 19 20 23 24 25 30 Aug 1 2 3 4 13 14 15 22 23</u>
		Total No. of visits	<u>74</u>

Is the approved plan of main boiler forwarded herewith yes ✓

Dates of Examination of principal parts - Cylinders 8-6-17 Slides 10-7-17 Covers 19-10-16 Pistons 25-6-17 Rods 23-7-17
Connecting rods 3-5-17 Crank shaft 12-6-17 Thrust shaft 21-6-17 Tunnel shafts none Screw shaft 3-8-17 Propellers 1-8-17
Stern tube 1-8-17 Steam pipes tested 6-7-12-9-17 Engine and boiler seatings 22-8-17 Engines holding down bolts 5-9-17
Completion of pumping arrangements 26-10-17 Boilers fixed 13-9-17 Engines tried under steam 25-9-17
Main boiler safety valves adjusted 25-9-17 Thickness of adjusting washers FP $\frac{5}{8}$ S $\frac{3}{8}$ FS both $\frac{11}{32}$ AP $\frac{2}{8}$ S $\frac{13}{32}$ AS both $\frac{3}{8}$
Material of Crank shaft Steel Identification Mark on Do. 1964N.WC Material of Thrust shaft Steel Identification Mark on Do. 613RFM
Material of Tunnel shafts none Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. 87 & 88 J.P.
Material of Steam Pipes Sapwooded wrought iron ✓ Test pressure 540 lbs per sq. in. ✓
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 yes ✓ If so, state name of vessel S/S "Hirsh" Sld Rpt No 27054

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 records + LMC 10.17. Fitted for oil fuel 10.17. FP above 150° Fah.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 10.17. F.D.

Fitted for oil fuel 10.17. F.P. above 150°F.

The amount of Entry Fee ...	£ 3 :	When applied for,
Special ...	£ 47 : 19 :	<u>6.11.1917</u>
Donkey Boiler Fee ...	£ :	When received,
Travelling Expenses (if any) £	:	<u>10.11.1917</u>

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

Committee's Minute TUE NOV 27 1917
Assigned + LMC 10.17. F.D.
Fitted for oil fuel 10.17.
FP above 150°F.



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