

## REPORT ON MACHINERY.

No. 26014  
Lloyd's Register  
FEB 23 1914

Received at London Office

Date of writing Report

19

When handed in at Local Office

21. 2. 1914 Port of

Sunderland

No. in Survey held at  
Reg. Book.

on the

Sunderland  
S.S. "Koolonga"

Date, First Survey

11 July

Last Survey

18 Feb 1914

(Number of Visits

35

Gross

4260

Tons

Net

2632

When built

1913-14

Master

H. McDonald Built at

Sunderland

By whom built

Sunderland M.B. Coy Ltd

When made

1913-14

Engines made at

Sunderland

By whom made

North Eastern Marine Engg Co Ltd

when made

1913-14

Boilers made at

do

By whom made

do

when made

1913-14

Registered Horse Power

Owners

McLaurith, McEacham &amp; Co Propy Ltd

Port belonging to

Melbourne

Nom. Horse Power as per Section 28

344

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

## ENGINES, &amp;c.—Description of Engines

Triple expansion

No. of Cylinders

Three

No. of Cranks

Three

Dia. of Cylinders

25" x 42" x 68"

Length of Stroke

45"

Revs. per minute

65

Dia. of Screw shaft

as per rule 13.95

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

Length of stern bush

4'-8"

Dia. of Tunnel shaft

as per rule 12.5

Dia. of Crank shaft journals

as per rule 13.08

Dia. of Crank pin

13'8"

Size of Crank webs

20' x 8'3"

Dia. of thrust shaft under

collars

13'8"

Dia. of screw

14'0"

Pitch of Screw

14'3"

No. of Blades

4

State whether moveable

no

Total surface

91 ft

No. of Feed pumps

Two

Diameter of ditto

3'8"

Stroke

24"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

Two

Diameter of ditto

4"

Stroke

24"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

Three

Sizes of Pumps

4' x 9' x 10' 2, 6' x 4' x 6' 8' 2

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

In Engine Room

Three @ 3'3" dia

In Holds, &amp;c.

Two @ 3'3" dia in each

No. of Bilge Injections

1

sizes

4'8"

Connected to condenser, or to circulating pump

C.P.

Is a separate Donkey Suction fitted in Engine room &amp; size

yes 3'3"

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

yes

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

how

How are they protected

yes

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

11-11-13

of Stern Tube

14-11-13

Screw shaft and Propeller

14-11-13

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

top platform

## BOILERS, &amp;c.—(Letter for record

Manufacturers of Steel

Spencer &amp; Sons Ltd

Total Heating Surface of Boilers

5400 ft

Is Forced Draft fitted

no

No. and Description of Boilers

Two single ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

23-10-13

No. of Certificate

3161

Can each boiler be worked separately

yes

Area of fire grate in each boiler

62 ft

No. and Description of Safety Valves to

each boiler

Two spring loaded

Area of each valve

4.06 sq

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

20"

Mean dia. of boilers

16'6"

Length

11'3"

Material of shell plates

steel

Thickness

1 1/4"

Range of tensile strength

28,845 to 32,400

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

D.R.

long. seams

T.R.D.B.S.

Diameter of rivet holes in long. seams

1 3/8"

Pitch of rivets

9 3/4"

Lap of plates or width of butt straps

20'8"

Per centages of strength of longitudinal joint

rivets 86.5

Working pressure of shell by rules

180 lbs

Size of manhole in shell

16' x 12'

end

Size of compensating ring

dished

No. and Description of Furnaces in each boiler

Three Deighton

Material

Steel

Outside diameter

4'-2 1/2"

Length of plain part

top

bottom

Thickness of plates

crown

Description of longitudinal joint

weld

No. of strengthening rings

25

Back

Top

Bottom

Working pressure of furnace by the rules

180 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

3/4"

Back

3/4"

Top

Bottom

Pitch of stays to ditto: Sides

11 3/4" x 8 3/4"

Back

10 3/4" x 10 3/4"

Top

8 3/4" x 11 3/4"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

180 lbs

Material of stays

Steel

Diameter at smallest part

2.1"

Area supported by each stay

103 sq

Working pressure by rules

180 lbs

End plates in steam space:

Material

Steel

Thickness

1 1/6"

Pitch of stays

23 3/8" x 23"

How are stays secured

D.N.Wash

Working pressure by rules

180 lbs

Material of stays

Steel

Diameter at smallest part

4.62"

Area supported by each stay

543 sq

Working pressure by rules

184 lbs

Material of Front plates at bottom

Steel

Thickness

3/4"

Material of Lower back plate

Steel

Thickness

15/16"

Greatest pitch of stays

14 3/4" x 10 3/8"

Working pressure of plate by rules

181 lbs

Material of tube plates

Steel

Thickness: Front

3/4"

Back

Mean pitch of stays

10 1/4"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

192 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

20 1/6" x 8 3/8"

Length as per rule

2'-8"

Distance apart

11 3/4"

Number and pitch of stays in each

2 @ 8 3/4"

Working pressure by rules

181 lbs

Superheater or Steam chest; how connected to boiler

how

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

Foundation



## 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 bolts & nuts for top and bottom ends and main bearings. One set pumping bolts. One set each feed & bilge pump valves assorted bolts nuts & riv. One tail shaft and propeller.

The foregoing is a correct description,

NORTH EASTERN MARINE ENGINEERING CO LTD

Manufacturer.

J. T. Harrison Secy  
per FIC

Dates of Survey while building	During progress of work in shops --	1913 Jul 11 Aug 7 14 27 Sep 3 5 10 19 26 Oct 2 4 9 10 15 17 22 23 24 30 Nov 14 5 6 11 12 13
	During erection on board vessel --	17 19 20 25 27 Dec 24 Jan 2 Feb 17 18
	Total No. of visits	(35)

Is the approved plan of main boiler forwarded herewith ☒ yes" " " donkey " " " ☒

**Dates of Examination of principal parts**—Cylinders 15-10-13 Slides 20-10-13 Covers 9-10-13 Pistons 20-10-13 Rods 22-10-13  
Connecting rods 10-9-13 Crank shaft 23-10-13 Thrust shaft 6-11-13 Tunnel shafts 14-10-13 Screw shaft 14-11-13 Propeller 13-11-13  
Stern tube 12-11-13 Steam pipes tested 20-11-13 Engine and boiler seatings 11-11-13 Engines holding down bolts 25-11-13  
Completion of pumping arrangements 14-12-13 18 21 14 Boilers fixed 25-11-13 Engines tried under steam 24-11-13  
Main boiler safety valves adjusted 24-11-13 Thickness of adjusting washers P.B. F 3/8" A 3/8", S.B. F 3/8" A 3/8"  
Material of Crank shaft Steel Identification Mark on Do. 145 W.5. Material of Thrust shaft Steel Identification Mark on Do. 144 W.5.  
Material of Tunnel shafts Steel Identification Marks on Do. 213 W.5. Material of Screw shafts Steel Identification Marks on Do. 143 W.5.  
Material of Steam Pipes Solid drawn pipes 5" dia x 5 lbs. Test pressure 1400 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 and workmanship are of good quality and the hydraulic tests of the boilers proved satisfactory. The whole of the machinery has been secured in place & tried under steam and is in good & safe working condition and eligible in my opinion to be classed and have record **LMC 2-14** in the Register Book.

It is submitted that  
this vessel is eligible for  
THE RECORD. **LMC 2-14**

W.D. 13/2/14

William Dutter.

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

The amount of Entry Fee	£ 3 : 0 : 0	When applied for,	21 2 1914
Special	£ 3 : 4 : 0	When received,	6/3/14
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

Committee's Minute FRI. FEB. 27. 1914

Assigned

LMC 2-14

MACHINERY CERTIFICATE  
GRANTED

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Lloyd's Register  
Foundation

Date of writing  
No. in  
Reg. Book.

Master

Engines made  
Donkey  
Boilers made

Registered

MULTITU

(Letter for rec)

Boilers

No. of Certificate

safety valves to

Are they fitted

Smallest distance

Material of shell

Descrip. of rivets

Top of plates

rules 100

801-10

61-11-6

Messrs. Sander

be Specially Su

We

For b

Horse Po

above 200.

than £2 2s

MEM-

all cases w

to be defra

r. No. 4617

This request is

Foreign Shipping

While the Committee

told that neither the

report or certificate is

or for any error of j

e Secretary,

Lloyd's Register

GENERAL R

Special M

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It has been

safety valve

Survey Fee

Travelling Exper

Committee's M

Signed