

## REPORT ON MACHINERY.

Port of

Sunderland

Received at London Office

Nwc. No. 55854

S.D. No. 23843

MUN. 14 DEC 1908

SAI. 7 NOV 1908

12.11.08

1908

No. in Survey held at

Sunderland

Date, first Survey

19th June 08

Last Survey

3rd Nov 1908

Reg. Book.

on the

S. S. "The Norman"

(Number of Voids 30)

Tons

Gross

Net

265

86

When built

1901

Master

McDonald

Built at

H. Shields

By whom built

Messrs. Smith's Dock Co.

Engines made at

Sunderland

By whom made

Messrs. Mac Coll &amp; Pollock

Boilers made at

Sunderland

By whom made

Messrs. Mac Coll &amp; Pollock

when made

1908

Registered Horse Power

Owners

Red Buo

Port belonging to

Mifid

Nom. Horse Power as per Section 28

78

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

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

Inverted triple expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

12½, 20, 34"

Length of Stroke

24"

Revs. per minute

105

Dia. of Screw shaft

as per rule 7.25

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

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

Length of stern bush

2' 6½"

Dia. of Tunnel shaft

as per rule 6.31

Dia. of Crank shaft journals

as per rule 6.62

Dia. of Crank pin

as per rule 6.76

Size of Crank webs

10½ x 4½"

Dia. of thrust shaft under

collars 6½"

Dia. of screw

9' 3"

Pitch of Screw

11' 9"

No. of Blades

4

State whether moveable

no

Total surface

34 ft

No. of Feed pumps

one

Diameter of ditto

2½"

Stroke

12"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

one

Diameter of ditto

2½"

Stroke

12"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

2

Sizes of Pumps

3½ x 6 x 6

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

In Engine Room

2 of 2" &amp; one ejector 2½"

In Holds, &amp;c. 1 of 2" dia

No. of Bilge Injections

one sizes

3"

Connected to condenser, or to circulating pump

pump

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

4" - 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 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

suction to slack tank

How are they protected

wood casing

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. 10. 08

of Stern Tube

27. 10. 08

Screw shaft and Propeller

27. 10. 08

Is the Screw Shaft Tunnel watertight

nil

Is it fitted with a watertight door

Yes

worked from

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

X(S)

Manufacturers of Steel J. Spencer &amp; Sons &amp; W. Beardmore &amp; Co

Total Heating Surface of Boilers

14237

Is Forced Draft fitted

no

No. and Description of Boilers

one S.E. Cyl. Multi

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

15. 9. 08

No. of Certificate

2723

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

38 ft

No. and Description of Safety Valves to

each boiler

2 spring patent

Area of each valve

3. 98

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

10"

Mean dia. of boilers

12' 6"

Length

10' 6"

Material of shell plates

steel

Thickness

1½"

Range of tensile strength

28/32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

d &amp; lap

long. seams

L &amp; d. T. S.

Diameter of rivet holes in long. seams

1½"

Pitch of rivets

7½"

Lap of plates or width of butt straps

15½"

Per centages of strength of longitudinal joint

rivets 92.5

plate 86.4

Working pressure of shell by rules

182.9 lbs

Size of manhole in shell

16 x 12"

Size of compensating ring

2' 4" x 2' 2" x 1½"

No. and Description of Furnaces in each boiler

2 plain

Material

steel

Outside diameter

43"

Length of plain part

top 6' 2½"

Thickness of plates

crown 49/64

Description of longitudinal joint

weld

No. of strengthening rings

Yes

Working pressure of furnace by the rules

180.0 lbs

Combustion chamber plates: Material

steel

Thickness: Sides

¾"

Back

¾"

Top

¾"

Bottom

¾"

Pitch of stays to ditto: Sides

9 x 9½"

Back

9½ x 9½"

Top

8½ x 9½"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

185.8 lbs

Material of stays

steel

Diameter at smallest part

2.07"

Area supported by each stay

8.75"

Working pressure by rules

242 lbs

End plates in steam space:

Material

steel

Thickness

1½"

Pitch of stays

20½ x 18½"

How are stays secured

d &amp; w.

Working pressure by rules

184.1 lbs

Material of stays

steel

Diameter at smallest part

7.24"

Area supported by each stay

38.3. 8.75"

Working pressure by rules

196 lbs

Material of Front plates at bottom

steel

Thickness

13/16"

Material of Lower back plate

steel

Thickness

13/16"

Greatest pitch of stays

12½ x 9½"

Working pressure of plate by rules

193.6 lbs

Diameter of tubes

3½"

Pitch of tubes

4½ x 4½"

Material of tube plates

steel

Thickness: Front

13/16"

Back

13/16"

Mean pitch of stays

13½ x 9"

Pitch across wide water spaces

14½"

Working pressures by rules

210 lbs

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

9½ x 1½"

Length as per rule

31½"

Distance apart

9½"

Number and pitch of stays in each

2 - 8½"

Working pressure by rules

182.3 lbs

Superheater or Steam chest; how connected to boiler

Yes

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

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness



4 B  
23873

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 \_\_\_\_\_ 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, 2 Main bearing & 1 set of Coupling bolts, 1 set of feed & bilge pump Valves, 1 set air & Circulating pump Valves, 1 Main feed check & 1 donkey feed check Valve, 1 Propeller, Bolts & nuts assorted & iron of size \_\_\_\_\_

MAC COLL & POLLOCK LTD

The foregoing is a correct description,

Manufacturer.

*Angus MacColl*  
Managing Director

1908:-  
Dates of Survey while building { During progress of work in shops - June 19, 22, 29, July 3, 8, 14, 17, 21, 23, Aug: 5, 11, 14, 18, 21, 25, 28, Sept 1, 8, 15, 23  
During erection on board vessel - Oct. 1, 9, 12, 15, 20, 21, 24, 29, Nov 2, 3, Dec 1908 Oct. 22  
Total No. of visits 30.

Is the approved plan of main boiler forwarded herewith *Yes*

" " " donkey " " "  
Dates of Examination of principal parts—Cylinders 1.10.08 Slides 1.10.08 Covers 1.10.08 Pistons 1.10.08 Rods 1.10.08  
Connecting rods 1.10.08 Crank shaft 18.8.08 Thrust shaft 23.9.08 Tunnel shafts ✓ Screw shaft 1.10.08 Propeller 9.10.08  
Stern tube 20.10.08 Steam pipes tested 27.10.08 Engine and boiler seatings 22.10.08 Engines holding down bolts 29.10.08  
Completion of pumping arrangements 3.11.08 Boilers fixed 29.10.08 Engines tried under steam 3.11.08  
Main boiler safety valves adjusted 3.11.08 Thickness of adjusting washers P.V.  $\frac{3}{8}$ " ; S.V.  $\frac{3}{8}$ " -  
Material of Crank shaft Steel Identification Mark on Do. 2546 MR Material of Thrust shaft Steel Identification Mark on Do. 2739 P.A.  
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. 2720 P.A.  
Material of Steam Pipes Copper ✓ Test pressure 400 lbs ✓

General Remarks (State quality of workmanship, opinions as to class, &c. The Machinery of this vessel) has been constructed under special survey, the workmanship and materials used are both of good quality, the Engines have been tried under steam ahead & astern and worked satisfactorily.

We beg to recommend that this vessel is eligible in our opinion to have the record *LMC. 11.08* in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 11.08.

*JWR*  
14/12/08

*Cronard Challinors.*

The amount of Entry Fee £ 1 : 0 : 0 When applied for, 6/11 1908.  
Special .. £ 11 : 14 : 0  
Donkey Boiler Fee .. £ : : :  
Travelling Expenses (if any) £ : : :  
13 Dec 1908

*R.V. Coombes*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. 18 DEC 1908

Assigned

+ LMC 11.08

MACHINERY CERTIFICATE  
WRITTEN



Lloyd's Register  
Foundation

*Gundard*

Certificate (if required) to be sent to the Secretary of the Committee's Minute.