

# REPORT ON MACHINERY.

No. 6118

No. in Survey held at

Glasgow

Date, first Survey

Dec 2<sup>nd</sup> 82

(Received at London Office Dec 2<sup>nd</sup> 1883)

Last Survey May 14<sup>th</sup> 1883

Reg. Book.

954 on the

new steam vessel "Colindale"

(Number of Visits)

2001

Master

Morrison

Built at

Glasgow

When built

1872

Engines made at

Glasgow

By whom made

Barclay Curle

When made

1872

Boilers made at

"

By whom made

Les Anderson & Co

When made

1883

Registered Horse Power

265

Owners

Messrs. Donaldson & Co

Port belonging to

Glasgow

## ENGINES, &c.—

Description of Engines

Compound. Inverted. Surface Condensing

Diameter of Cylinders

44" & 48"

Length of Stroke

54"

No. of Rev. per minute

60

Point of Cut off, High Pressure

1/2"

Low Pressure 1/2"

Diameter of Screw shaft

12 3/4"

Diameter of Tunnel shaft

12 3/4"

Diameter of Crank shaft journals

14 1/2"

Diameter of Crank pin

14 1/2"

size of Crank webs 16 x 9

Diameter of screw

16.9

Pitch of screw

25.0

No. of blades

4

state whether moveable

Yes

total surface 80 sq ft.

No. of Feed pumps

Two

diameter of ditto

5 3/8"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

Two

diameter of ditto

5 1/2"

Stroke

24"

Can one be overhauled while the other is at work

Yes

Where do they pump from

Bilges of Engine Room & all Compartments of Vessel

No. of Donkey Engines

One

Size of Pumps

14 1/2" x 12"

Where do they pump from

Sea. Bilges of

Engine Room. All Compartments of Vessel and through Condenser

Are all the bilge suction pipes fitted with roses

Yes

Are the roses always accessible

Yes

Are the sluices on Engine room bulkheads always accessible

Yes

No. of bilge injections

One

and sizes

6 1/2" dia

Are they connected to condenser, or to circulating pump

Circulating

How are the pumps worked

By Levers attached to crossheads

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

Main Feed

How are they protected

How casing

Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times

Yes

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges

Yes

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

4<sup>th</sup> April

1883

Is the screw shaft tunnel watertight

No

and fitted with a sluice door

Yes

worked from

Yes

## BOILERS, &c.—

Number of Boilers

Two

Description

Cylindrical & Multitubular. (Iron plates)

Working Pressure

80 lb

Tested by hydraulic pressure to

160 lb

Date of test

Feb 14<sup>th</sup>

1883

Description of superheating apparatus or steam chest

None

Can each boiler be worked separately

Yes

Can the superheater be shut off and the boiler worked separately

Yes

No. of square feet of fire grate surface in each boiler

80 sq ft

Description of safety valves

Direct Spring

No. to each boiler

Two

area of each valve

25.7 sq in

Are they fitted with easing gear

Yes

No. of safety valves to superheater

None

area of each valve

None

are they fitted with easing gear

None

Smallest distance between boilers and bunkers or woodwork

12 inches

Is welded at ends

Yes

Diameter of boilers

15' 8"

Length of boilers

15' 6"

description of riveting of shell long. seams

Ship riv butt

circum. seams

Double Lap

Thickness of shell plates

1"

diameter of rivet holes

1 1/4"

whether punched or drilled

Drilled

pitch of rivets

6"

Lap of plating

18" Straps

per centage of strength of longitudinal joint

49 + 96

working pressure of shell by rules

96 lb

Size of manholes in shell

15" x 18"

size of compensating rings

Steel ring 8" x 1"

No. of Furnaces in each boiler

4

outside diameter

4' 1"

length, top

5' 6"

bottom

Through

Thickness of plates

7/16"

description of joint

Concated

if rings are fitted

on bottom

greatest length between rings

None

Working pressure of furnace by the rules

90 lb

Combustion chamber plating, thickness, sides

15/32"

back

None

top

15/32"

Girders 8 1/2" x 1 1/4"

Pitch of stays to ditto, sides

9 x 9"

back

None

top

9 x 8 1/2"

If stays are fitted with nuts or riveted heads

Nuts

working pressure of plating by rules

83 lb

Diameter of stays at smallest part

1 3/8"

working pressure of ditto by rules

111 lb

End plates in steam space, thickness

3/4"

pitch of stays to ditto

16 3/4" x 16 3/4"

how stays are secured

Nuts and

riveted washers

None

Working pressure by rules

82 lb

diameter of stays at smallest part

2 3/8"

working pressure by rules

94 lb

Front plates at bottom, thickness

3/4"

Back plates, thickness

None

greatest pitch of stays

None

working pressure by rules

None

Working pressure by rules

82 lb

diameter of stays at smallest part

2 3/8"

working pressure by rules

94 lb

Front plates at bottom, thickness

3/4"

Back plates, thickness

None

greatest pitch of stays

None

working pressure by rules

None

Working pressure by rules

82 lb

diameter of stays at smallest part

2 3/8"

working pressure by rules

94 lb

Front plates at bottom, thickness

3/4"

Back plates, thickness

None

greatest pitch of stays

None

working pressure by rules

None



6118 Gls

Diameter of tubes  $3\frac{1}{2}$ " pitch of tubes  $5\frac{1}{2} \times 4\frac{1}{8}$ " thickness of tube plates, front  $\frac{3}{4}$ " back  $\frac{1}{16}$ "  
 How stayed *Tube stays* pitch of stays  $15" \times 9\frac{1}{4}"$  width of water spaces  $6"$   
 Diameter of Superheater or Steam chest *—* length *—*  
 Thickness of plates *—* description of longitudinal joint *—* diameter of rivet holes *—* pitch of rivets *—*  
 Working pressure of shell by rules *—* Diameter of flue *—* thickness of plates *—*  
 If stiffened with rings *—* distance between rings *—* Working pressure by rules *—*  
 End plates of superheater, or steam chest; thickness *—* How stayed *—*  
 Superheater or steam chest; how connected to boiler *—*

## DONKEY BOILER—

Description *Cylindrical & Multitubular (Non-Shell)*

Made at *Glasgow* By whom made *Luc Anderson & Co* when made *1883*  
 Where fixed *on deck* working pressure *45 lb* Tested by hydraulic pressure to *150 lb* No. of Certificate *982*  
 Fire grate area *22 sq ft* Description of safety valves *Hand-Spring* No. of safety valves *Two* area of each *7 sq in*  
 If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No*  
 Diameter of donkey boiler *8' 6"* length *8' 0"* description of riveting *touch in butt ends milled*  
 thickness of shell plates *5/8"* diameter of rivet holes *7/8"* whether punched or drilled *drilled*  
 pitch of rivets *4"* lap of plating *9 1/2"* per centage of strength of joint *41%*  
 thickness of crown plates *5/8"* stayed by *bar-stays 2" dia pitched 14 1/4" x 14 1/4"*  
 Diameter of furnace, top *2' 4"* bottom *2' 4"* length of furnace *5' 3"*  
 thickness of plates *7/16"* description of joint *double butt straps*  
 thickness of furnace crown plates *15/32* stayed by *bar-stays 1 1/8" dia pitched 9 x 9" with nuts*  
 Working pressure of shell by rules *45 lb* working pressure of furnace by rules *110 lb*  
 diameter of uptake *—* thickness of plates *—* thickness of water tubes *—*

The foregoing is a correct description,

*Luc Anderson & Co* Manufacturer. of *Main & Donkey Boilers*

General Remarks (State quality of workmanship, opinions as to class, &c. *New Main & Donkey Boilers*)

Supplied and fitted on board. Vessel placed in Craving Dock. Propeller Shaft examined. wood in outer bush renewed. and. new Propeller blades fitted. All sea Connections examined. the Cocks on flat of ship's bottom removed to upper turn of beams. A Gun fitted in H.P. cylinder and new Piston supplied. L.P. Cylinder and slides in good condition. Piston turned up. all Piston and slide rods turned up. new neck rings fitted and glands rebrushed.

Crank & Sunned Shafting examined. new Crank Pinbrasses fitted. Surface Condenser examined and cleaned. defective tubes renewed as required.

Air Circulating, Feed and Bilge pumps with their rods, pipes, valves and connections overhauled and put in good order.

The above Machinery is now in good order and safe working condition and in my opinion eligible to be noted in the Register Book. *Lloyd's M.C. N.B. 583*

The amount of Entry Fee *£4:4:0* received by me, *(Signature)*

Special

Certificate (if required) *£4:4:0*

To be sent as per margin.

(Travelling Expenses, if any, £ *—*)

Committee's Minute

TUESDAY 29 MAY 1883 18

*L M 25.83 + N.B. 13*

*J.M. Grogan*  
 Engineer, Surveyor to Lloyd's Register of British & Foreign Shipping.

*Lloyd's District.*

Lloyd's Register  
 Foundation