

# REPORT ON MACHINERY

No. 19441

No. in Survey held at

lancaster

Date, first Survey

3<sup>rd</sup> June 1885 Last Survey 24<sup>th</sup> June 1886

Reg. Book.

503 on the

S S Port-Pirie

(Number of Visits

40)

3109 Tons 2040

Master

Hepworth

Built at

lancaster

By whom built

R & W. Hawthorn, Leslie & Co. When built

1886

Engines made at

lancaster

By whom made

Major Wigham Richardson

when made

1886

Boilers made at

Do

By whom made

Do

when made

1886

Registered Horse Power

450

Owners

Wm. Milburn & Co

Port belonging to

London

## ENGINES, &c.—

Description of Engines

Inverted triple cylinder Surface condensing

Diameter of Cylinders

29.44.74

Length of Stroke

48

No. of Rev. per minute

70

Point of Cut off, High Pressure

70%

Low Pressure

50%

Diameter of Screw shaft

14

Diam. of Tunnel shaft

13 1/2

Diam. of Crank shaft journals

13 3/4

Diam. of Crank pin

13 3/4

size of Crank webs

21 1/2 x 9 1/2

Diameter of screw

15-9

Pitch of screw

20-

No. of blades

4

state whether moveable

yes

total surface

86 ft

No. of Feed pumps

2

diameter of ditto

3 3/8

Stroke

29

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

diameter of ditto

4 1/4

Stroke

29

Can one be overhauled while the other is at work

yes

Where do they pump from

Sea Tanks and all bilges

No. of Donkey Engines

Two

Size of Pumps

9 x 10 & 4 x 9

Where do they pump from

Sea tanks

Holds & all bilges and fresh water 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

1

and sizes

4

Are they connected to condenser, or to circulating pump

no

How are the pumps worked

Lever over condenser

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

at line

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 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

none

Is the screw shaft tunnel watertight

yes

and fitted with a sluice door

yes

worked from

top platform of engine room

## BOILERS, &c.—

Number of Boilers

Three

Description

Double ended

Whether Steel or Iron

Steel

Working Pressure

150

Tested by hydraulic pressure to

300

Date of test

29<sup>th</sup> December 1885

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

none

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

68 1/2

Description of safety valves

Spring

No. to each boiler

two

Area of each valve

70"

Are they fitted with easing gear

yes

No. of safety valves to superheater

—

area of each valve

—

Are they fitted with easing gear

—

Smallest distance between boilers and bunkers or woodwork

18 inches

Diameter of boilers

11-0

Length of boilers

16-0

description of riveting of shell long. seams

2 Part steps

circum. seams

lap lapped

Thickness of shell plates

1

Diameter of rivet holes

1 1/2

whether punched or drilled

Drill

pitch of rivets

4 3/8

Lap of plating

1 1/2

size of manholes in shell

16 x 12

Per centage of strength of longitudinal joint

84%

working pressure of shell by rules

155 1/2

size of manholes in shell

16 x 12

Size of compensating rings

6 1/2 x 1 1/8

No. of Furnaces in each boiler

4

Outside diameter

36

length, top

6-0

bottom

6-0

thickness of plates

1 3/32

description of joint

Corrugated

if rings are fitted

—

Greatest length between rings

—

working pressure of furnace by the rules

152

combustion chamber plating, thickness, sides

1 3/32

back

—

top

Pitch of stays to ditto, sides

8 3/16

back

—

top

8 3/16

If stays are fitted with nuts or riveted heads

nuts

working pressure of plating by

rules

rules

152

Diameter of stays at smallest part

1 3/8

working pressure of ditto by rules

160

end plates in steam space, thickness

3/4

diameter of stays at

smallest part

Pitch of stays to ditto

16 3/16

how stays are secured

—

working pressure by rules

150

Front plates at bottom, thickness

3/8

Back plates, thickness

—

Greatest pitch of stays

—

working pressure by rules

—

plates, front

13 1/16

back

3 1/4

how stayed

—

Diameter of tubes

3 1/4

pitch of tubes

4 1/2 x 1 3/8

thickness of tube

—

width of water spaces

6"

Diameter of Superheater or Steam chest

—

length

—

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 (all steel)*  
Made at *Batehead* by whom made *Clark Chapman & Parnes* when made *26.4.86* where fixed *Stokehold*  
Working pressure *75* tested by hydraulic pressure to *150* No. of Certificate *2094* fire grate area *22* ~~sq~~ description of safety  
valves *Spring* No. of safety valves *2* area of each *7.5* if fitted with easing gear *yes* if steam from main boilers can  
enter the donkey boiler *on* diameter of donkey boiler *8-0* length *8-6* description of riveting *Double Lap*  
Thickness of shell plates *7/32* diameter of rivet holes *1* whether punched or drilled *punched* pitch of rivets *3 1/4* lap of plating  
per centage of strength of joint *69* thickness of ~~end~~ *end* plates *7/16* stayed by *8 longitudinal stays 15" pitch 9 braced*  
Diameter of furnace, ~~top~~ *bottom* *28* ~~two~~ length of furnace *6-0* thickness of plates *1/2* description of joint *Single Lap*  
Thickness of furnace ~~end~~ *end* plates *7/16* stayed by *1 1/8 stays 8x9 pitch* working pressure of shell by rules *82*  
Working pressure of furnace by rules *133* diameter of ~~plate~~ *plate* *30* thickness of plates *7/16* ~~thickness of plates~~ *3 stays*  
*on crown 1 1/8 diameter and dome double riveted to*

SPARE GEAR. State the articles supplied:—

*As per Society's requirements.*

The foregoing is a correct description,

*for* *Wigham Richardson* Manufacturer.

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

*The machinery of this vessel has been constructed under special survey. The materials and workmanship are sound and satisfactory and eligible in my opinion to have the notation + Lloyd's M.C. 6-8 in the Society's Register Book.*

The amount of Entry Fee .. £ 3 : - - - *not yet received by me*

Special .. £ 42 : 10 : -

Donkey Boiler Fee .. £ - : - -

Certificate (if required) .. £ *frank* - : - *23/9/186*

To be sent as per margin.

(Travelling Expenses, if any, £ ..)

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

Committee's Minute

FRIDAY 16 JULY 1886