

# REPORT ON MACHINERY.

24538

No. 24538

Port of Newcastle on Tyne

Received at London Office 9/8/90

No. in Survey held at South Shields

Date, first Survey 25<sup>th</sup> Jan'y

Last Survey 1<sup>st</sup> July 1890

Reg. Book.

on the

S.S. Trevaylor

(Number of Visits 25)

2426

Tons 1572

Master Quiller

Built at South Shields By whom built

Readhead & Sons

When built 1890

Engines made at South Shields

By whom made

Readhead & Sons

when made 1890

Boilers made at South Shields

By whom made

Readhead & Sons

when made 1890

Registered Horse Power 250

Owners

E. Hain & Son

Port belonging to St. Eves

## ENGINES, &c.—

Description of Engines

Triple expansion sur. condensing

Diameter of Cylinders 23 3/4" 6 1/2" Length of Stroke 39" No. of Rev. per minute 60 Point of Cut off, High Pressure 6 Low Pressure 5

Diameter of Screw shaft 11 1/2" Diam. of Tunnel shaft 11" Diam. of Crank shaft journals 1 1/2" Diam. of Crank pin 1 1/2" size of Crank webs Foster's Patent

Diameter of screw 15-0" Pitch of screw 15-6" to 18-6" No. of blades 4 state whether moveable no total surface 5 7/8"

No. of Feed pumps 2 diameter of ditto 2 1/2" Stroke 20" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 diameter of ditto 3 3/4" Stroke 20" Can one be overhauled while the other is at work yes

Where do they pump from (port pump) Tanks Fore hold Eng. bilges (1) (Star pump) Eng. bilges (2) & after well

No. of Donkey Engines 2 Size of Pumps 13 1/2" x 9" x 10" & 5 1/4" x 3 1/2" x 5" Where do they pump from (Ball. Don.) Tanks Holds

Engine bilges, after well &c.

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 3 1/2" Are they connected to condenser, or to circulating pump circulating pump

Are the pumps worked By levers over condenser from after engine

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

Are they carried through the bulkheads yes 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

Were stern tube, propeller, screw shaft, and all connections examined in dry dock new vessel

Is the screw shaft tunnel watertight and fitted with a sluice door yes worked from

## BOILERS, &c.—

Number of Boilers

2

Description

Cylind. single

Whether Steel or Iron

Steel

Working Pressure

160 lb

Tested by hydraulic pressure to

320 lb

Date of test

19<sup>th</sup> May 1890 No. of test 3233

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

Area of square feet of fire grate surface in each boiler 52.25 Description of safety valves Spring No. to each boiler 2

Area of each valve 7.04 sq. ft. Are they fitted with easing gear yes No. of safety valves to superheater

Are they fitted with easing gear yes Smallest distance between boilers and bunkers or woodwork 15" Diameter of boilers 14-3"

Thickness of shell plates 19 1/2" Description of riveting of shell long. seams double butt, triple, &c. circum. seams double & lap

Diameter of rivet holes 1 7/8" whether punched or drilled drilled pitch of rivets 7/8" Lap of plating 19"

Percentage of strength of longitudinal joint 82.4 working pressure of shell by rules 160 size of manholes in shell 15" x 12"

No. of compensating rings 6 x 19 1/2" No. of Furnaces in each boiler 3

Inside diameter 39" length, top 5-9 bottom 8-6 thickness of plates 11/32" description of joint Welded if rings are fitted

Test length between rings working pressure of furnace by the rules combustion chamber plating, thickness, sides 5/8" back 5/8" top 5/8"

No. of stays to ditto, sides 8 5/8" back 8 5/8" top 8" If stays are fitted with nuts or riveted heads nuts working pressure of plating by

Rules 161 Diameter of stays at smallest part 1 5/8" working pressure of ditto by rules 161 end plates in steam space, thickness 1 1/2"

No. of stays to ditto 16" how stays are secured Double nuts & wash working pressure by rules 159 diameter of stays at

Smallest part 2 1/32" working pressure by rules 160 Front plates at bottom, thickness 3/4" Back plates, thickness 1 1/8"

Steepest pitch of stays 11 1/4" working pressure by rules 160 Diameter of tubes 3 1/4" pitch of tubes 4 1/2" thickness of tube

Plating, front 3/4" back 3/4" how stayed 5 Lugs pitch of stays 9" width of water spaces 5"

Thickness of Superheater or Steam chest none length thickness of plates description of longitudinal joint diam. of rivet holes

No. 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

Description of furnaces

Report recd 10/4/90 sent to Mr. 8/8/90



DONKEY BOILER— Description *Vertical 4 cross tubes*  
Made at *Latterhead* by whom made *Clarke Chapman & Co* when made *2.4.90* where fixed *Stokehold*  
Working pressure *80* tested by hydraulic pressure to *160* No. of Certificate *3198* fire grate area *21 ft* description of safety  
valves *Spring* No. of safety valves *one* area of each *9.62* if fitted with easing gear *yes* if steam from main boilers can  
enter the donkey boiler *no* diameter of donkey boiler *6'-6"* length *13'-6"* description of riveting *(Lap) double lap*  
Thickness of shell plates *7/16"* diameter of rivet holes *7/8"* whether punched or drilled *drilled* pitch of rivets *3 3/16"* lap of plating *4 1/4"*  
per centage of strength of joint *72* thickness of crown plates *9/16"* stayed by *6 steel stays 1 5/8" diam*  
Diameter of furnace, top *5'-2"* bottom *5'-6"* length of furnace *5'-9"* thickness of plates *9/16"* description of joint *single lap*  
Thickness of furnace crown plates *9/16"* stayed by *as shell crown*  
Working pressure of furnace by rules *80 lbs* diameter of uptake *15"* thickness of plates *7/16"* thickness of water tubes *3/8"*  
*3 rows of stays in firebox* *1 1/8" diam eff.*

SPARE GEAR. State the articles supplied:— *Propeller shaft and propeller, 1/3" Crank,*  
*2 top end & 2 bottom end connecting rod bolts nuts, 2 main bearing bolts,*  
*one set of coupling bolts, one set of flange & feed pump valves, bolts nuts*  
*assorted, bar iron various sizes & ordinary engine room outfit*  
The foregoing is a correct description,  
*John Headhead & Sons* Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this*  
*vessel has been constructed under special survey, the*  
*material and workmanship are sound & good, and renders*  
*the vessel eligible in my opinion to have the record + LHC 7.90*  
*in the Register Book of the Society*

Heating surface = 3394 sq  
N.P. by rule = 231

*Submitted to the  
Committee of the  
Society of Lloyd's  
on 11/2/90*

Machinery Certificate  
Written.

The amount of Entry Fee .. £ 2 : - - - received by me,

Special .. .. £ 31 : 11 : -

Donkey Boiler Fee .. .. £ - : - : -

Certificate (if required) .. £ *gratis* : 13/5/90 18

Travelling Expenses, if any, £ .. ..

Committee's Minute

TUES 12 AUGUST 1890

+ Lm 67/90

*Richd. Napier*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



Lloyd's Register  
Foundation