

REPORT ON MACHINERY.

Port of NEWCASTLE-ON-TYNEReceived at London Office THURS. 22 MAR 1894No. in Survey held at NewcastleReg. Book. SupplementDate, first Survey 29 Aug 93 Last Survey 12 March 1894Number of Visits 2025 on the Steel Screw Steamer "Port Elliot"Master Ralph Whitehead Built at Newcastle By whom built W. Dobson & CoTons { Gross 3556.2Net 2294.58When built 1894Engines made at Newcastle By whom made Wallsend Slipway & Eng Co when made 1894Boilers made at Do By whom made Do when made 1894Registered Horse Power 400 Owners W. Milburn & Co Port belonging to LondonNom. Horse Power as per Section 28 289.5

ENGINES, &c.— Description of Engines Triple Expansion No. of Cylinders 3

Diameter of Cylinders 24"-40"-64" Length of Stroke 45" Revolutions per minute 65 Diameter of Screw shaft as per rule 11 1/2"

Diameter of Tunnel shaft as fitted 11 3/4" Diameter of Crank shaft journals 12 1/2" Diameter of Crank pin 12 3/4" Size of Crank webs 18 X 8 3/4"

Diameter of screw 17'0" Pitch of screw 18'0" No. of blades 4 State whether moveable no Total surface 80 sq ft

No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps 6 1/2 X 4 X 6" 6 X 8 1/2 X 6" No. and size of Suctions connected to both Bilge and Donkey pumps 2

In Engine Room Two - 3 1/2" One - 4" In Holds, &c. Two fore hold 3" Two fore main 3"

Two aft main 3" One aft hold 3 1/2" One tunnel well 3"

No. of bilge injections two sizes 5 1/2" Connected to condenser, or to circulating pump Is a separate donkey suction fitted in Engine room of size 3 1/2"

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 (cocks)

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 none How are they protected ✓

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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock ✓ Is the screw shaft tunnel watertight yes

Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.— (Letter for record S.) Total Heating Surface of Boilers 4520 sq ft

No. and Description of Boilers 2 Cyl. Single ended Working Pressure 160 lb Tested by hydraulic pressure to 320 lb

Date of test 11/1/94 Can each boiler be worked separately yes Area of fire grate in each boiler 50 sq ft No. and Description of safety valves to each boiler 2 Spring

Area of each valve 8.29 Pressure to which they are adjusted 165 lb Are they fitted with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean diameter of boilers 15'9"

Length 10'6" Material of shell plates Steel Thickness 1 1/2" Description of riveting: circum. seams Lap double & long. seams Double butt triple

Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 19 1/2"

Per centages of strength of longitudinal joint 87.5 Working pressure of shell by rules 162 lb Size of manhole in shell 16 X 12"

Size of compensating ring 8 X 1 1/2" No. and Description of Furnaces in each boiler 4 plain Material Steel Outside diameter 3'3"

Length of plain part top 6'0" bottom 6'3" Thickness of plates top 23/32" bottom 23/32" Description of longitudinal joint D.B. strap No. of strengthening rings 1

Working pressure of furnace by the rules 160 lb Combustion chamber plates: Material Steel Thickness: Sides 3/32" Back 1/32" Top 1/16" Bottom 3/4"

Pitch of stays to ditto: Sides 8" Back 8 1/2" Top 10" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 163 lb

Material of stays Steel Diameter at smallest part 1 1/8" Area supported by each stay 80 sq in Working pressure by rules 181 lb End plates in steam space:

Material Steel Thickness 1 1/8" Pitch of stays 17" X 16" How are stays secured DRY R Working pressure by rules 201 lb Material of stays Steel

Diameter at smallest part 2 1/2" Area supported by each stay 342 sq in Working pressure by rules 170 lb Material of Front plates at bottom Steel

Thickness 7/8" Material of Lower back plate Steel Thickness 3/8" Greatest pitch of stays 12 3/4" Working pressure of plate by rules 163 lb

Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" Material of tube plates Steel Thickness: Front 3/32" Back 3/4" Mean pitch of stays 9 1/2"

Pitch across wide water spaces 15" Working pressures by rules 160 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 1/2" X 1 1/2" Length as per rule 2'10" Distance apart 10" Number and pitch of Stays in each 3 - 10"

Working pressure by rules 164 lb Superheater or Steam chest; how connected to boiler none 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 ✓

Auxiliary

DONKEY BOILER—

Description *Cylindrical single ended.*

Made at *Wallsend* By whom made *Wallsend Slipway & Eng. Co.* When made *22-1-94* Where fixed *Spokehole*

Working pressure *160lb* tested by hydraulic pressure to *320lb* No. of Certificate *4240* Fire grate area *18sq* Description of safety valves *Spring*

No. of safety valves *2* Area of each *3.98* Pressure to which they are adjusted *165lb* 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"* Material of shell plates *Steel* Thickness *3/32"*

Description of riveting long. seams *D.B. Double* Diameter of rivet holes *15/16"* Whether punched or drilled *drilled* Pitch of rivets *5 3/4"*

Lap of plating *18 1/4"* Per centage of strength of joint *84.1* Rivets *84.1* Thickness of shell *end* plates *1"* Radius of do. *✓* No. of Stays to do. *8*

Dia. of stays. *2 1/4"* Diameter of furnace *Top 28 1/2"* Bottom *✓* Length of furnace *5'0"* Thickness of furnace plates *9/16"* Description of joint *Butt* Thickness of furnace crown plates *9/16"* Stayed by *Screwed stays* Working pressure of shell by rules *188*

Working pressure of furnace by rules *160lb* Diameter of uptake *✓* Thickness of uptake plates *✓* Thickness of water tubes *✓*

SPARE GEAR. State the articles supplied:— *2 top end bolts & nuts - 2 bottom end bolts & nuts - 2 main bearing bolts & nuts - one set coupling bolts & nuts - one propeller - one prop shaft - 1/2 crank shaft, one set fuel and bilge valves & seats - one set check valves - 12 piston bolts & nuts - 2 safety valve springs - bolts & nuts assorted.*

FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LTD.
The foregoing is a correct description,

L. Rusden Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been built under Special Survey, the material and workmanship are sound & good and render the vessel eligible in our opinion to have the notation + L.M.C. 3-94 in the Register Book.*

It is submitted that
this vessel is eligible for
THE RECORD + L.M.C. 3-94

N.A.
22-3-94

MACHINERY CERTIFICATE
WRITTEN.

Certificate (if required) to be sent to *Newcastle Office.*

The amount of Entry Fee..	£ 2 : - : -	When applied for,
Special	£ 34 : 9 : -	2.1.3.....18.94.
Donkey Boiler Fee	£ 2 : 2 : -	When received,
Travelling Expenses (if any) £	.. : - : -	<i>31/3/94</i>

P. F. Morton & Richard Hurst
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **TUES. 27 MAR 1894**

Assigned *+ L.M.C. 3, 94*



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Foundation