Rpt. 4.

REPORT ON MACHINERY.

Nwc No. 47631
Hull 16257

Port of Newcastle on Tyne

Received at London Office TUES. 27 SEP 1904

No. in Reg. Book. 675 — Survey held at North Shields — Date, first Survey 13th May 04 — Last Survey Sep 16th 1904 — Number of Visits 12

on the Screw. Steamer "Portsea"

Tons: Gross 314 / Net 117

Master ____ Built at Goole — By whom built Goole S.B. Coy Ld (69) — When built 1904

Engines made at North Shields — By whom made Shields Engineering Coy Ld (60) — when made 1904

Boilers made at Newcastle — By whom made R. Stephenson & Co. — when made 1904

Registered Horse Power ✓ — Owners Portsea Shipping Co Ld — Port belonging to Cardiff

Nom. Horse Power as per Section 28 57 — Is Refrigerating Machinery fitted for cargo purposes No — Is Electric Light fitted No

ENGINES, &c.—Description of Engines Compound — No. of Cylinders Two — No. of Cranks two

Dia. of Cylinders 16" - 34" — Length of Stroke 22 — Revs. per minute 100 — Dia. of Screw shaft as per rule 6.95 / as fitted 7" — Material of screw shaft Iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No — 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 ✓ — 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 ✓ — If two liners are fitted, is the shaft lapped or protected between the liners lapped & painted — Length of stern bush 2'-8½"

Dia. of Tunnel shaft as per rule 6.44 / as fitted 6 9/16 — Dia. of Crank shaft journals as per rule 6.44 / as fitted 6 7/8 — Dia. of Crank pin 6 7/8 — Size of Crank webs 4½ x 12¾ — Dia. of thrust shaft under collars 6 7/8" — Dia. of screw 8'-3" — Pitch of screw 11'-6 — No. of blades 4 — State whether moveable No — Total surface 23 sq ft

No. of Feed pumps 1 — Diameter of ditto 2½" — Stroke 12" — Can one be overhauled while the other is at work ✓

No. of Bilge pumps 1 — Diameter of ditto 2½" — Stroke 12" — Can one be overhauled while the other is at work ✓

No. of Donkey Engines one — Sizes of Pumps 5¼ x 3½" x 5 Duplex — No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room one 2" aft. one 2" forward. — In Holds, &c. one 2½"

No. of bilge injections 1 — sizes 2 3/8 — Connected to condenser, or to circulating pump CP — Is a separate donkey suction fitted in Engine room & size Yes. 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 ✓

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 New Vessel — Is the screw shaft tunnel watertight ✓ No tunnel

Is it fitted with a watertight door ✓ — worked from ✓

BOILERS, &c.— (Letter for record S) — Total Heating Surface of Boilers 1002 sq ft — Is forced draft fitted No

No. and Description of Boilers One Cyl. Multitubular — Working Pressure 130 lbs — Tested by hydraulic pressure to 260 lbs

Date of test 3-6-04 — Can each boiler be worked separately ✓ — Area of fire grate in each boiler 35 sq ft — No. and Description of safety valves to each boiler two, direct Spring — Area of each valve 4.91 sq in — Pressure to which they are adjusted 135 lbs — Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork No Side bunker — Mean dia. of boilers 10'-6" — Length 10'-7¾" — Material of shell plates S

Thickness ¾ — Range of tensile strength 28/32 — Are they welded or flanged No — Descrip. of riveting: cir. seams d lap — long. seams d strap

Diameter of rivet holes in long. seams 15/16 — Pitch of rivets 5 — Lap of plates or width of butt straps 14 3/4

Per centages of strength of longitudinal joint rivets 82.25 / plate 81.25 — Working pressure of shell by rules ~~130~~ 140 — Size of manhole in shell 16 x 12

Size of compensating ring 7 x ¾ — No. and Description of Furnaces in each boiler 2 plain — Material S — Outside diameter 39

Length of plain part top 39 3/4 / bottom 72 — Thickness of plates crown 5/8 / bottom 5/8 — Description of longitudinal joint d strap — No. of strengthening rings half

Working pressure of furnace by the rules 135 — Combustion chamber plates: Material S — Thickness: Sides 9/16 — Back 9/16 — Top 9/16 — Bottom ¾

Pitch of stays to ditto: Sides 9 x 9 — Back 9 x 9 — Top 9 x 9 — If stays are fitted with nuts or riveted heads Nuts — Working pressure by rules 135

Material of stays S — ~~Diameter~~ area at smallest part 1.5 — Area supported by each stay 81 — Working pressure by rules 136 — End plates in steam space:

Material S — Thickness 7/8 — Pitch of stays 17½ x 15 — How are stays secured d n & W — Working pressure by rules 136 — Material of stays S

~~Diameter~~ area at smallest part 3.67 — Area supported by each stay 262.5 — Working pressure by rules 139 — Material of Front plates at bottom S

Thickness 7/8 — Material of Lower back plate S — Thickness 7/8 — Greatest pitch of stays As per plan — Working pressure of plate by rules Appd 130

Diameter of tubes 3¼ — Pitch of tubes 4½ x 4½ — Material of tube plates S — Thickness: Front 7/8 — Back 23/32 — Mean pitch of stays 11¼

Pitch across wide water spaces 14 — Working pressures by rules 140 — Girders to Chamber tops: Material S — Depth and thickness of girder at centre 8 x 1 3/8 — Length as per rule 30½ — Distance apart 9 — Number and pitch of Stays in each 2 - 9

Working pressure by rules 147 — ~~Superheater or~~ Steam chest; how connected to boiler d rivets — Can the superheater be shut off and the boiler worked separately No — Diameter 2'-0" — Length 2'-6" — Thickness of shell plates 7/16 — Material S — Description of longitudinal joint S lap — Diam. of rivet holes 15/16 — Pitch of rivets 2¼ — Working pressure of shell by rules 217 — Diameter of flue ✓ — Material of flue plates ✓ — Thickness ✓

If stiffened with rings ✓ — Distance between rings ✓ — Working pressure by rules ✓ — End plates: Thickness 11/16 — How stayed dished

Working pressure of end plates 130 — Area of safety valves to superheater ✓ — Are they fitted with easing gear ✓

If not, state whether, and when, one will be sent.

Is a Report also sent on the Hull of the Ship?

[2000—6,04—Copyable Ink.]

W801-0075

DONKEY BOILER— No. One Description Vertical, two cross tubes

Made at Stockton By whom made T. Tudron & Co. When made 1904 Where fixed Stokehole

Working pressure 80 lbs tested by hydraulic pressure to 160 lbs No. of Certificate 3271 Fire grate area 14½ □' Description of safety valves Direct spring

No. of safety valves One Area of each 7 □" Pressure to which they are adjusted 80 lbs If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No Dia. of donkey boiler 5'-0" Length 8'-0 Material of shell plates Steel Thickness 11/32" Range of tensile strength 27-32 Descrip. of riveting long. seams D.R. Lap Dia. of rivet holes 13/16 Whether punched or drilled Drilled Pitch of rivets 2¾"

Lap of plating Per centage of strength of joint Rivets 94 Plates 70.5 Thickness of shell crown plates ½" Radius of do. 3'-9" No. of Stays to do. ✓

Dia. of stays. ✓ Diameter of furnace Top 4'-1⅜ Bottom 4'-6" Length of furnace 2'-9" Thickness of furnace plates 7/16" Description of joint S.R. Lap Thickness of furnace crown plates 9/16" Stayed by Dished 3'-9" rad. Working pressure of shell by rules 80.1 lbs

Working pressure of furnace by rules 138 lbs Diameter of uptake 13" Thickness of uptake plates 3/8" Thickness of water tubes 3/8"

SPARE GEAR. State the articles supplied :— Two top end bolts and nuts, two bottom end bolts and nuts, two main bearing bolts and nuts, spare coupling bolts & nuts, spare feed and bilge pump valves assorted iron bolts and nuts.

For ROBERT STEPHENSON & CO., LIMITED.
The foregoing is a correct description,
W. Thompson
SECRETARY.
Manufacturer.

For THE SHIELDS ENGINEERING & DRY DOCK Co. Ltd NORTH SHIELDS.
Jn. Osten(?)

Dates of Survey while building	
During progress of work in shops	Eng. 1904 May 22, July 7, 27, Aug 9, 11, Sep 15, 6, 8, 9 : 11 Visits Newcastle
During erection on board vessel	Hull Sep. 16/04
Total No. of visits	12.

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " " Yes

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

The Machy has been built under Special Survey. The material & workmanship is good.
The Machy is eligible in our opinion for classification & to have the record +LMC. 9-04

It is submitted that this vessel is eligible for THE RECORD. + LMC. 9.04
B.E.C.(?) 27.9.04
E.S. 27.9.04

Certificate (if required) to be sent to Newcastle-on-Tyne

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

		When applied for, 20 SEP 1904
The amount of Entry Fee..	£ 1 : :	
Special	£ 8 : 11 :	When received, 18.10.04
Donkey Boiler Fee	£	
Travelling Expenses (if any)	£	

John H Heck. Leonard G. Shallcross(?)
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
J Kerr

Committee's Minute FRI. 30 SEP 1904 MACHINERY CERTIFICATE WRITTEN.

Assigned + LMC 9.04