

REPORT ON MACHINERY.

Port of Dundee

Received at London Office

SAT 4 113

No. in Survey held at Dundee
Reg. Book.Date, first Survey Oct 21st 91 Last Survey May 23rd 1892.(Number of Visits 16)508 on the SS. HungarianTons { Gross 1552
Net 984Master Lawson Built at Port Glasgow By whom built Blackwood & Gordon When built 1879-3Engines made at Port Glasgow By whom made Blackwood & Gordon when made 1879.Boilers made at Dundee By whom made W B Thompson & Co Ltd when made 1892Registered Horse Power 160 Owners Bell & Lime Port belonging to Dundee

Nom. Horse Power as per Section 28

ENGINES, &c.—

Description of Engines

No. of Cylinders

Diameter of Cylinders

Length of Stroke

Revolutions per minute

Diameter of Screw shaft

as per rule
as fitted

Diameter of Tunnel shaft

as per rule
as fitted

Diameter of Crank shaft journals

Diameter of Crank pin

Size of Crank webs

Diameter of screw

Pitch of screw

No. of blades

State whether moveable

Total surface

No. of Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Bilge pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Donkey Engines

Sizes of Pumps

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

In Holds, &c.

No. of bilge injections

sizes

Connected to condenser, or to circulating pump

Is a separate donkey suction fitted in Engine room & size

Are all the bilge suction pipes fitted with roses

Are the roses in Engine room always accessible

Are the sluices on Engine room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship

Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

Are the discharge pipes above or below the deep water line

Are they each fitted with a discharge valve always accessible on the plating of the vessel

Are the blow off cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers

How are they protected

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

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

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

Is the screw shaft tunnel watertight

Is it fitted with a watertight door

worked from

OILERS, &c.—

(Letter for record (N))Total Heating Surface of Boilers 2057 sq ftNo. and Description of Boilers One - double endedWorking Pressure 90 lbs Tested by hydraulic pressure to 180 lbsDate of test 1/3/92 Can each boiler be worked separately ☒Area of fire grate in each boiler 85.5 sq ft

No. and Description of safety valves to

each boiler Two spring loadedArea of each valve 9.62Pressure to which they are adjusted 90 lbs

Are they fitted

with easing gear

yesSmallest distance between boilers or uptakes and bunkers or woodwork 12 insMean diameter of boilers 13'-8"Length 15'-3"Material of shell plates steelThickness $\frac{3}{8}$ Description of riveting: circum. seams double riv lap long. seams treble riv lapDiameter of rivet holes in long. seams $\frac{1}{16}$ Pitch of rivets $4\frac{1}{2}$ Lap of plates or width of butt straps 8"

Per centages of strength of longitudinal joint

rivets 71.4
plate 73.6Working pressure of shell by rules 91.8Size of manhole in shell 14 x 13Size of compensating ring $6\frac{1}{2} \times \frac{7}{8}$ No. and Description of Furnaces in each boiler One - plainMaterial steel Outside diameter 34"

Length of plain part

top 6'-0"
bottom 6'-0"

Thickness of plates

crown $\frac{1}{2}$
bottom $\frac{1}{2}$ Description of longitudinal joint double butt straps No. of strengthening rings noneWorking pressure of furnace by the rules 110 lbsCombustion chamber plates: Material steel Thickness: Sides $\frac{1}{2}$ Back ☒ Top $\frac{1}{2}$ Bottom $\frac{5}{8}$ Pitch of stays to ditto: Sides 9 x 9Back ☒Top 9 x 9If stays are fitted with nuts or riveted heads nutsWorking pressure by rules 94.8Material of stays IronDiameter at smallest part 1'-28Area supported by each stay 81 sq inWorking pressure by rules 95 lbs End plates in steam space:Material steelThickness $\frac{1}{16}$ Pitch of stays 18 x 16How are stays secured double nutsWorking pressure by rules 91 lbsMaterial of stays steelDiameter at smallest part 2'-28Area supported by each stay 288 sq inWorking pressure by rules 109Material of Front plates at bottom steelThickness $\frac{3}{4}$ Material of Lower back plate ☒Thickness ☒Greatest pitch of stays ☒Working pressure of plate by rules ☒Diameter of tubes 3"Pitch of tubes $4\frac{3}{4} \times 5$ Material of tube plates steelThickness: Front $\frac{3}{4}$ Back $\frac{1}{16}$ Mean pitch of stays $14\frac{1}{2} \times 10$ Pitch across wide water spaces $14\frac{1}{2}$ Working pressures by rules 95 lbsGirders to Chamber tops: Material Iron Depth andthickness of girder at centre $7\frac{1}{2} \times \frac{3}{4}$ Length as per rule 2'-10"Distance apart 9"Number and pitch of Stays in each 3 of 9" pitchWorking pressure by rules 98Superheater or Steam chest; how connected to boiler flanged

Can the superheater be shut off and the boiler worked

separately ☒Diameter 2'-11 $\frac{1}{2}$ Length 8'-0"Thickness of shell plates $\frac{3}{8}$ Material steelDescription of longitudinal joint double lapholes $\frac{7}{8}$ Pitch of rivets $2\frac{3}{4}$ Working pressure of shell by rules 141Diameter of flue ☒Material of flue plates ☒Thickness ☒If stiffened with rings ☒Distance between rings ☒Working pressure by rules ☒End plates: Thickness $\frac{7}{8}$ How stayed One 2 $\frac{1}{2}$ dia stayAre they fitted with easing gear ☒Working pressure of end plates 100Area of safety valves to superheater ☒Are they fitted with easing gear ☒

DONKEY BOILER— Description *Vertical cross tube*
Made at *Dundee* By whom made *W B Thompson & Co Lim* When made *1892* Where fixed *Stoke hold*
Working pressure *80* tested by hydraulic pressure to *160* No. of Certificate *624* Fire grate area *18 sq ft* Description of safety valves *One spring loaded*
No. of safety valves *one* Area of each *8.3* 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* Diameter of donkey boiler *5' 6"* Length *13' 6"* Material of shell plates *steel* Thickness *$\frac{3}{8}$*
Description of riveting long seams *double riv lap* Diameter of rivet holes *$\frac{3}{4}$* Whether punched or drilled *drilled* Pitch of rivets *$2\frac{3}{4}$*
Lap of plating *$3\frac{7}{8}$* Per centage of strength of joint Rivets *Y2.8* Thickness of shell crown plates *$\frac{3}{4}$* Radius of do. *flat* No. of Stays to do. *7*
Dia. of stays *$1\frac{1}{4}$* Diameter of furnace Top *4' 2 1/2"* Bottom *4' 10 1/2"* Length of furnace *7 ft* Thickness of furnace plates *$\frac{7}{16}$* Description of joint *single riv lap* Thickness of furnace crown plates *$\frac{5}{8}$* Stayed by *7 solid stays & dished* Working pressure of shell by rules *82.6 lbs*
Working pressure of furnace by rules *86 lbs* Diameter of uptake *12 1/2"* Thickness of uptake plates *$\frac{3}{8}$* Thickness of water tubes *$\frac{3}{8}$*

SPARE GEAR. State the articles supplied:— ✓

RETAIN

The foregoing is a correct description,
W. B. THOMPSON & Co., Limited Manufacturer.
W. B. Thompson

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

The new main and donkey boilers for this vessel have been constructed of steel under special survey. The material has been tested by the Society's Surveyors at the steel works and the certificates are annexed. The safety valves have been set to the working pressures of 90 lbs and 80 lbs per sq in.

Materials and workmanship are good.

The machinery is now in good and safe working condition and the vessel is in my opinion eligible to be classed with the notification *LMC 5.92. + NB 5.92.*

RETAIN

Certificate (if required) to be sent to

The amount of Entry Fee..	£	:	:	When applied for,
Special	£	5	: 5	<i>May 31. 1892.</i>
Donkey Boiler Fee	£	2	: 2	When received,
Travelling Expenses (if any) £	:	:	:	<i>June 3rd 1892.</i>

Harry Clarke
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **TUES. 7 JUN 1892**

FRI 1 JUL 1892

Assigned



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Foundation