

REPORT ON MACHINERY.

Port of *Dundee*

Received at London Office SAT. 30 APR 1898

No. in Survey held at *Dundee* Date, first Survey *3rd Aug. 1897* Last Survey *26th April 1898*
 Book. (Number of Visits *43*)
 28 on the *Iron Paddle Steamer "Pharos" (Not classed)* Tons { Gross *574*
 Net *241*
 Master *R. E. Simpson* Built at *Glasgow* By whom built *R. Kaper & Sons* When built *1874*
 Engines made at *Dundee* By whom made *Messrs Gourlay Bros & Co* when made *1898*
 Boilers made at *Dundee* By whom made *Messrs Gourlay Bros & Co* when made *1898*
 Registered Horse Power Owners *Commissioners of 9th Lighthouse Port belonging to Leith*
 Horse Power as per Section 28

GINES, &c.— Description of Engines *Diagonal Compound* No. of Cylinders *2*
 Diameter of Cylinders *33" - 64"* Length of Stroke *54"* Revolutions per minute Diameter of Screw shaft as per rule
 as fitted
 Diameter of Tunnel shaft 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
 of Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work
 of Bilge pumps Diameter of ditto Stroke Can one be overhauled while the other is at work
 of Donkey Engines Sizes of Pumps No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room In Holds, &c.

of bilge injections sizes Connected to condenser, or to circulating pump Is a separate donkey suction fitted in Engine room & size
 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
 all connections with the sea direct on the skin of the ship Are they Valves or Cocks
 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
 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
 at pipes are carried through the bunkers How are they protected
 all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times
 the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges
 on were stern tube, propeller, screw shaft, and all connections examined in dry dock Is the screw shaft tunnel watertight
 it fitted with a watertight door worked from

TERS, &c.— (Letter for record *(S)*) Total Heating Surface of Boilers *3492*
 and Description of Boilers *Two, cyl. single ended, Multitub^l* Working Pressure *120* Tested by hydraulic pressure to *240*
 of test *8.2.98* Can each boiler be worked separately ☒ Area of fire grate in each boiler ☒ No. and Description of safety valves to
 boiler ☒ Area of each valve ☒ Pressure to which they are adjusted ☒ Are they fitted
 easing gear ☒ Smallest distance between boilers or uptakes and bunkers or woodwork ☒ Mean diameter of boilers *13'-9"*
 length *10'-3"* Material of shell plates *Steel* Thickness *29/32"* Description of riveting: circum. seams *Lap Double* long. seams *D.B.T. Riv*
 Diameter of rivet holes in long. seams *1"* Pitch of rivets *7 3/16"* Lap of plates or width of butt straps *14 3/4"*
 percentages of strength of longitudinal joint rivets *89.0* Working pressure of shell by rules *130.3* Size of manhole in shell *16" x 12"*
 plate *86.0*
 of compensating ring *Mc Neil's* No. and Description of Furnaces in each boiler *3 Ribbed* Material *steel* Outside diameter *40 3/4"*
 length of plain part top ☒ Thickness of plates *13/32"* Description of longitudinal joint *welded* No. of strengthening rings *8*
 bottom ☒
 Working pressure of furnace by the rules *128* Combustion chamber plates: Material *steel* Thickness: Sides *9/16"* Back *9/16"* Top *9/16"* Bottom *3/4"*
 of stays to ditto: Sides *9" x 8"* Back *9" x 8"* Top *8" x 8"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *152*
 Material of stays *steel* Diameter at smallest part *1 1/4"* Area supported by each stay *72 sq"* Working pressure by rules *137* End plates in steam space:
 Material *steel* Thickness *7/8"* Pitch of stays *15 1/2" x 14 1/4"* How are stays secured *D.N. & L. W.* Working pressure by rules *160* Material of stays *steel*
 Diameter at smallest part *2 3/16"* Area supported by each stay *228.6* Working pressure by rules *146* Material of Front plates at bottom *steel*
 Thickness *11/16"* Material of Lower back plate *steel* Thickness *9/16"* Greatest pitch of stays *14 1/2" x 9"* Working pressure of plate by rules *167 lbs*
 Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2"* Material of tube plates *steel* Thickness: Front *11/16"* Back *11/16"* Mean pitch of stays *9"*
 thickness across wide water spaces *14 1/4"* Working pressures by rules *200 lbs* Girders to Chamber tops: Material *steel* Depth and
 thickness of girder at centre *9" x 1"* Length as per rule *31"* Distance apart *8"* Number and pitch of Stays in each *3-8"*
 Working pressure by rules *140 lbs* 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
☒ Pitch of rivets ☒ Working pressure of shell by rules ☒ Diameter of flue ☒ Material of flue plates ☒ Thickness ☒
 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 ☒

DONKEY BOILER— Description

Made at _____ By whom made _____ When made _____ Where fixed _____
 Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____
 No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____
 Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____
 Description of riveting long. seams _____ Diameter of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____
 Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____
 Dia. of stays. _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____
 Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____
 Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. These boilers have been built under

Special Survey, in accordance with the approved plan and Secretary's letter "E" dated 24th June, 1897. The steel has been tested by the Society's Surveyors and the materials and workmanship are sound and good. On completion the boiler was tested by hydraulic pressure to 240 lbs. also examined under steam and found to be tight and sound.

As these boilers are placed on board the unclassified vessel "Pharos" of Leith, it is submitted that further action on the case is unnecessary.

This Boiler has been constructed under special survey, but as it does not appear to be intended for a classed vessel, it is submitted that no further action need be taken.

JLS
 30/4/98

Certificate (if required) to be sent to Special certificate to be returned to Dundee Office

The amount of Entry Fee.. £ ✓ :
 Special £ 8 : 8 :
 Donkey Boiler Fee £ ✓ :
 Travelling Expenses (if any) £ ✓ :

When applied for,
 29/4/1898

When received,
 8/5/98 8/5/98

Wm Morrison
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

Assigned



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