

# REPORT ON MACHINERY.

Port of Dundee

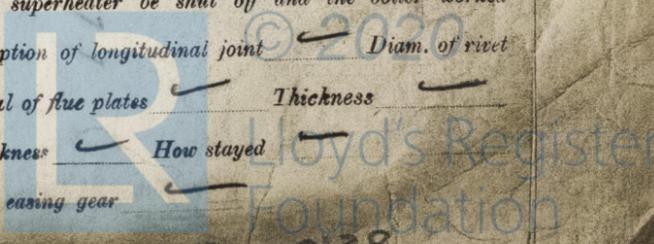
Received at London Office WED. 5 SEP 1900

No. in Survey held at Dundee Date, first Survey 23<sup>rd</sup> May Last Survey 30<sup>th</sup> Aug 1900  
 Reg. Book. 329 on the New Main Boiler of Iron Screw Steamer "Osprey" (Number of Visits 16)  
 Master ✓ Built at Stockton By whom built M. Pease & Co When built 1877  
 Engines made at Dundee By whom made Messrs Gourlay Bros & Co when made 1891  
 Boilers made at do By whom made Caledon S.S. & Eng Coy Lim<sup>d</sup> when made 1900  
 Registered Horse Power ✓ Owners General Atm Har Coy Port belonging to London  
 Nom. Horse Power as per Section 28 269 Is Refrigerating Machinery fitted no Is Electric Light fitted yes

**ENGINES, &c.**—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3  
 Liners fitted in cylinders  
 Dia. of Cylinders 22-36-58 Length of Stroke 45 Revs. per minute  
 Dia. of Tunnel shaft as per rule Dia. of Crank shaft journals as per rule Dia. of Crank pin as fitted Size of Crank webs Dia. of thrust shaft under collars  
 Dia. 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

**BOILERS, &c.**— (Letter for record (a)) Total Heating Surface of Boilers 4691 Is forced draft fitted no  
 No. and Description of Boilers Two cylindrical single ended Working Pressure 160 Tested by hydraulic pressure to 320  
 Date of test 30.8.00 Can each boiler be worked separately ✓ Area of fire grate in each boiler ✓ No. and Description of safety valves to each boiler ✓ Area of each valve ✓ Pressure to which they are adjusted ✓ Are they fitted with easing gear ✓  
 Smallest distance between boilers or uptakes and bunkers or woodwork ✓ Mean dia. of boilers 15'-6" Length 11'-0" Material of shell plates steel  
 Thickness 1 3/2 Range of tensile strength 28-32 Are they welded or flanged no Descrip. of riveting: cir. seams Lap. & T. long. seams D.B.-T. Riv  
 Diameter of rivet holes in long. seams 1 5/16 Pitch of rivets 9" ~~lap of plates in~~ width of butt straps 19 1/4"  
 Per centages of strength of longitudinal joint rivets 87.2 Working pressure of shell by rules 185 Size of manhole in shell 17" x 13"  
 plate 85.4  
 Size of compensating ring G.C. Keeli No. and Description of Furnaces in each boiler 4 corrugated Material steel Outside diameter 43"  
 Length of plain part top ✓ Thickness of plates crown 15 Description of longitudinal joint Welded No. of strengthening rings 12  
 bottom ✓ bottom 32  
 Working pressure of furnace by the rules 161 Combustion chamber plates: Material steel Thickness: Sides 3/8" Back 5/8" Top 3/8" Bottom 1/2"  
 Pitch of stays to ditto: Sides 8 x 7 1/2 Back 9 1/4 x 8 1/4 Top 8 x 7 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 175  
 Material of stays IRON Diameter at smallest part 1.51 Area supported by each stay 76.3 Working pressure by rules 176 End plates in steam space:  
 Material steel Thickness 1 3/2 Pitch of stays 16 x 15 How are stays secured all nuts Working pressure by rules 210 Material of stays IRON  
 Diameter at smallest part 2.79 Area supported by each stay 256 Working pressure by rules 179 Material of Front plates at bottom steel  
 Thickness 4 3/8 Material of Lower back plate steel Thickness 3/4" Greatest pitch of stays 12 3/4" Working pressure of plate by rules 168  
 Diameter of tubes 3 1/4" Pitch of tubes 4 3/8" Material of tube plates steel Thickness: Front 7/8" Back 1 1/8" Mean pitch of stays 8 3/4"  
 Pitch across wide water spaces 13 3/4" Working pressures by rules 283 Girders to Chamber tops: Material IRON Depth and  
 thickness of girder at centre 10" x 1 1/2" Length as per rule 32 1/2 Distance apart 8 Number and pitch of Stays in each 3 = 7 1/2"  
 Working pressure by rules 208 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 ✓

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**DONKEY BOILER—** No. 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

Di. of donkey boiler Length Material of shell plates Thickness Range of tensile strength

Descrip. of riveting long. seams Dia. 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.

Di. of stays Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description 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.

*W. B. Thompson*

Dates of Survey while building

During progress of work in shops - - May 23<sup>rd</sup> June 2. 13. 14. 20. 21-27; July 4. 12. 19. Aug 7. 9. 14. 21. 24. 30,

During erection on board vessel - - none

Total No. of visits 16

Is the approved plan of main boiler forwarded herewith *yes*

" " " donkey " " " *no.*

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

The two main Boilers have been built under special survey and in accordance with the approved plan and Secretary's letter "E"-6/9/00, and in general conformity with the Rules. The steel used in the construction of the boilers has been tested by the Society's Surveyors and the materials and workmanship are sound and good. On completion the boilers were tested by hydraulic pressure and found tight and sound.

It will be observed that the diameters of the cylinders have been reduced. It is respectfully submitted that, as the main boilers referred to, are to be placed on board an unclassified vessel, further action is unnecessary.

As these boilers do not appear to be intended for a classed vessel it is submitted no further action need be taken.

*Dr to Wm. Morrison*  
*9/10/00*

*W. Morrison*  
*5.9.00*

The amount of Entry Fee.. £ ✓ : When applied for, 3<sup>rd</sup> Sept 1900

Special .. .. £ 15 15/ ✓ : When received, 28/9/00

Donkey Boiler Fee .. .. £ ✓ :

Travelling Expenses (if any) £ ✓ :

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

Committee's Minute

Assigned

*Not for Council*

*Unclassed Vessel*



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