

REPORT ON MACHINERY.

as fitted before launching only?
Port of Dublin

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No. in Survey held at Dublin Date, first Survey 12th June Last Survey 9th July 1909.
 Reg. Book. on the S.S. Balmiel II. (Number of Visits 9. Tons } Gross
 Master Built at Dublin By whom built Dublin Dockyard Co When built 1909. } Net
 Engines made at _____ By whom made _____ when made _____
 Boilers made at _____ By whom made _____ when made _____
 Registered Horse Power _____ Owners Wigan Coal & Iron Co Ltd Port belonging to Liverpool.
 Nom. Horse Power as per Section 28 _____ Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____

ENGINES, &c.—Description of Engines

No. of Cylinders _____ No. of Cranks _____
 Dia. of Cylinders _____ Length of Stroke _____ Revs. per minute _____ Dia. of Screw shaft ^{as per rule} _____ Material of _{as fitted} screw shaft _____
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube _____ Is the after end of the liner made water tight in the propeller boss _____ 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 _____ Length of stern bush _____
 Dia. of Tunnel shaft ^{as per rule} _____ Dia. of Crank shaft journals ^{as per rule} _____ Dia. of Crank pin _____ 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 ^{bilge} Holds, &c. 2-4" 2-3" + 2-2 1/2" tank & bilge suction under top.
 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 none
 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 _____ 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 yes
 What pipes are carried through the bunkers bulkhead - 1 1/4" + 2-2 1/2" - 1 1/2" diam How are they protected strong wood casings.
 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 _____
 Dates of examination of completion of fitting of Sea Connections 29th June of Stern Tube 1st July Screw shaft and Propeller 9th July
 Is the Screw Shaft Tunnel watertight _____ Is it fitted with a watertight door _____ worked from _____

BOILERS, &c.—(Letter for record _____) Manufacturers of Steel

Total Heating Surface of Boilers _____ Is Forced Draft fitted _____ No. and Description of Boilers _____
 Working Pressure _____ Tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____
 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 _____ Length _____ Material of shell plates _____
 Thickness _____ Range of tensile strength _____ Are the shell plates welded or flanged _____ Descrip. of riveting: cir. seams _____
 long. seams _____ Diameter of rivet holes in long. seams _____ Pitch of rivets _____ Lap of plates or width of butt straps _____
 Per centages of strength of longitudinal joint ^{rivets} _____ Working pressure of shell by rules _____ Size of manhole in shell _____
 Size of compensating ring _____ No. and Description of Furnaces in each boiler _____ Material _____ Outside diameter _____
 Length of plain part ^{top} _____ Thickness of plates ^{bottom} _____ Description of longitudinal joint _____ No. of strengthening rings _____
 Working pressure of furnace by the rules _____ Combustion chamber plates: Material _____ Thickness: Sides _____ Back _____ Top _____ Bottom _____
 Pitch of stays to ditto: Sides _____ Back _____ Top _____ If stays are fitted with nuts or riveted heads _____ Working pressure by rules _____
 Material of stays _____ Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ End plates in steam space: _____
 Material _____ Thickness _____ Pitch of stays _____ How are stays secured _____ Working pressure by rules _____ Material of stays _____
 Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ Material of Front plates at bottom _____
 Thickness _____ Material of Lower back plate _____ Thickness _____ Greatest pitch of stays _____ Working pressure of plate by rules _____
 Diameter of tubes _____ Pitch of tubes _____ Material of tube plates _____ Thickness: Front _____ Back _____ Mean pitch of stays _____
 Pitch across wide water spaces _____ Working pressures by rules _____ Girders to Chamber tops: Material _____ Depth and thickness of girder at centre _____ Length as per rule _____ Distance apart _____ Number and pitch of stays in each _____
 Working pressure by rules _____ Superheater or Steam chest; how connected to boiler _____ 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 _____

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. 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 _____ Plates _____

Working pressure of shell by rules _____ 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 _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied :—

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - }
 { During erection on board vessel - - }
 Total No. of visits _____

Is the approved plan of main boiler forwarded herewith _____

“ ” “ donkey ” “ ”

Dates of Examination of principal parts—Cylinders _____ Slides _____ Covers _____ Pistons _____ Rods _____

Connecting rods _____ Crank shaft _____ Thrust shaft _____ Tunnel shafts _____ Screw shaft _____ Propeller _____

Stern tube _____ Steam pipes tested _____ Engine and boiler seatings _____ Engines holding down bolts _____

Completion of pumping arrangements _____ Boilers fixed _____ Engines tried under steam _____

Main boiler safety valves adjusted _____ Thickness of adjusting washers _____

Material of Crank shaft _____ Identification Mark on Do. _____ Material of Thrust shaft _____ Identification Mark on Do. _____

Material of Tunnel shafts _____ Identification Marks on Do. _____ Material of Screw shafts _____ Identification Marks on Do. _____

Material of Steam Pipes _____ Test pressure _____

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

Inlet valves + sea cocks (below load light line) fitted + fastened. Stern Post boxed + stem tube fitted + fastened. Tail shaft + Propeller in place, Thrust shaft also in place and temporarily fastened to enable the vessel to be towed to Belfast for Machinery completion.
 Belfast Surveyors notified accordingly.

Certificate (if required) to be sent to _____

The amount of Entry Fee. £	:	:	When applied for,
Special £	:	:19.....
Donkey Boiler Fee £	:	:	When received,
Travelling Expenses (if any) £	:	:19.....

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

Committee's Minute TUES. 7 SEP 1904

Assigned see minute on Bel R/M 6658



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