

REPORT ON MACHINERY.

No. 7538

MON. AUG. 9 - 1915

Date of writing Report 4th Aug 15 When handed in at Local Office 10 Port of Belfast
 No. in Survey held at Belfast Date, First Survey 7th Oct 1912 Last Survey 1st Aug 1915
 Reg. Book. T.S.S. Orbita (Number of Visits 124) Gross 15678

Master Built at Belfast By whom built Harland & Wolff Tons 10140
 Engines made at Belfast By whom made when made 1915
 Boilers made at By whom made when made

Registered Horse Power Owners Pacific Steam Navigation belonging to Liverpool
 Nom. Horse Power as per Section 28 1643 **NOT FOR REG BK** Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines one Low Pressure Turbine of Cylinders one No. of Cranks
 Dia. of Cylinders 9'-11 1/2" to 10'-10" length of Stroke Revs. per minute 213 Dia. of Screw shaft as approved 11.09" Material of S. Steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes 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 Length of stern bush 6'-6"
 Dia. of Tunnel shaft as approved 10.36" 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 10'-0" Pitch of Screw 8'-0" No. of Blades 4 State whether moveable No Total surface 42 sq. ft.

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
 Dates of examination of completion of fitting of Sea Connections of Stern Tube Screw shaft and Propeller
 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 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 Thickness of plates 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 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 _____ Radius of do. _____ Stayed by _____

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

SPARE GEAR. State the articles supplied:— *See other sheet*

The foregoing is a correct description,
FOR HARLAND & WOLFF Ltd.
George Manning Manufacturer.

Dates of Survey while building

During progress of work in shops --

During erection on board vessel ---

Total No. of visits _____

See other sheet

Is the approved plan of main boiler forwarded herewith

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.)
See other sheets

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

R. J. Beveridge
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute TUE. AUG. 10. 1915
Assigned

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

Date of writing Report _____

No. in Survey book _____

Reg. Book. _____

on the _____

Master _____

Engines made at _____

Boilers made at _____

Registered Horse Power _____

Nom. Horse Power _____

ENGINES, &c. _____

Dia. of Cylinders _____

Is the screw shaft _____

in the propeller _____

between the bearing _____

liners are fitted, is _____

Dia. of Tunnel shaft _____

collars $15\frac{3}{4}$ Dia. _____

No. of Feed pumps _____

No. of Bilge pumps _____

No. of Donkey Engines _____

In Engine Room _____

$1-4\frac{1}{2}$

No. of Bilge Injection _____

Are all the bilge suction _____

Are all connections _____

Are they fixed sufficient _____

Are they each fitted _____

What pipes are carried _____

Are all Pipes, Cock _____

Are the Bilge Suction _____

Dates of examination _____

Is the Screw Shaft _____

OILERS, &c. _____

Total Heating Surface _____

Working Pressure _____

Can each boiler be _____

each boiler 3-12 _____

Smallest distance between _____

Thickness $1\frac{37}{64}$ _____

long. seams _____

Per centages of strength _____

Size of compensating _____

Length of plain part _____

Working pressure of _____

Pitch of stays to ditto _____

Material of stay _____

Material _____

Diameter at smaller _____

Thickness $\frac{7}{8}$ Ma _____

Diameter of tubes _____

Pitch across width _____

Thickness of girder _____

Working pressure _____

separately _____

oles ✓ Pitch _____

stiffened with rings _____

Working pressure _____

WEB-I

WEB-F

WEB-F

BRACE

Web

BULB

V.T.BU

COL

PARTI

LONGI

Are the

Are the

FLAT P

(If Bar

GARBO

State a

thickness

way of

Bott

Shee

Sid

Sid

Out

Sid

THICKNES

CLEAR O

Do. O

DBLG. of

Length

POOP SI

SHORT E

FORECAS

Awning

Shutte

String

Upper

Stringe

FRAME

REVER

LOWER

Bowsprit

Topmaste

Rigging

Sails.