

REPORT ON MACHINERY.

No. 8914

Date of writing Report *April 1923* When handed in at Local Office *May 6th 1923* Port of *Belfast*
No. in Survey held at *Belfast* Date, First Survey *1920 Jan'y 20* Last Survey *May 6th 1923*
Reg. Book. on the *New Steel S.S. Tonn Head* (Number of Visits *68*) Gross *5221*
Tons Net *3161*
Master Built at *Belfast* By whom built *Workman Clark & Co Ltd* When built *1923*
Engines made at *Belfast* By whom made *Workman Clark & Co Ltd* 393 when made *1923*
Boilers made at *Belfast* By whom made *Workman Clark & Co Ltd* when made *1923*
Registered Horse Power Owners *Ulster S.S. Coy Ltd.* Port belonging to *Belfast*
Nom. Horse Power as per Section 28 *531* Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *yes*

ENGINES, &c.—Description of Engines *Single screw triple expansion* No. of Cylinders *3* No. of Cranks *3*
Dia. of Cylinders *26 1/2 x 44 x 44* Length of Stroke *48* Revs. per minute *40* Dia. of Screw shaft *15.04* as per rule *16* as fitted Material of *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 *5'-4"*
Dia. of Tunnel shaft *13.74* as per rule *14.38* as fitted Dia. of Crank shaft journals *14.38* as fitted Dia. of Crank pin *14.38* Size of Crank webs *9 1/4 x 26 1/2* Dia. of thrust shaft under
collars *14.38* Dia. of screw *18'-0"* Pitch of Screw *18'-0"* No. of Blades *4* State whether moveable *yes* Total surface *100 sq*
No. of Feed pumps *2* Diameter of ditto *4 1/4* Stroke *2 1/2* Can one be overhauled while the other is at work *yes*
No. of Bilge pumps *2* Diameter of ditto *4 1/4* Stroke *2 1/2* Can one be overhauled while the other is at work *yes*
No. of Donkey Engines *2* Sizes of Pumps *1 1/2 x 10* *1 1/2 x 8* No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room *4 @ 3 1/2"* *1 @ 3 1/2"* Tunnel Well In Holds, &c. *2 @ 3 1/2"* *dia in each*
hold except to H, 10 H hold 4 @ 3 1/2" dia.
No. of Bilge Injections *1* sizes *9"* Connected to condenser, or to circulating pump *CP* Is a separate Donkey Suction fitted in Engine room & size *yes 3 1/2"*
Are all the bilge suction pipes fitted with roses *yes* Are the roses in Engine room always accessible *yes* Are the sluices on Engine room bulkheads always accessible *✓*
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 *yes* Are the Discharge Pipes above or below the deep water line *Both*
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel *yes* Are the Blow Off Cocks fitted with a spigot and brass covering plate *yes*
What pipes are carried through the bunkers *Holds & bilge suction* How are they protected *Wood casings*
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *yes*
Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *yes*
Is the Screw Shaft Tunnel watertight *yes* Is it fitted with a watertight door *yes* worked from *top platform*

BOILERS, &c.—(Letter for record *5*) Manufacturers of Steel *James & Sons, W. Beardmore & Co. & Steel Coy of Scotland*
Total Heating Surface of Boilers *4548* Is Forced Draft fitted *yes* No. and Description of Boilers *Three single ended*
Working Pressure *200 lbs* Tested by hydraulic pressure to *350 lbs* Date of test *19-1-23* No. of Certificate *821*
Can each boiler be worked separately *yes* Area of fire grate in each boiler *59 1/2 sq* No. and Description of Safety Valves to
each boiler *Two direct spring* Area of each valve *9.62 sq* Pressure to which they are adjusted *205 lbs* Are they fitted with easing gear *yes*
Smallest distance between boilers or uptakes and bunkers or woodwork *18"* *Internal* dia. of boilers *14'-9"* Length *12'-6"* Material of shell plates *Steel*
Thickness *1 1/2"* Range of tensile strength *28 to 32* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *D.R.*
long. seams *T.R.D.D.S.* Diameter of rivet holes in long. seams *1 1/2"* Pitch of rivets *9"* Lap of plates or width of butt straps *19 1/2"*
Per centages of strength of longitudinal joint *86.4* Working pressure of shell by rules *201 lbs* Size of manhole in shell *16" x 12"*
Size of compensating ring *2 1/2 x 2 1/2 x 1 1/2* No. and Description of Furnaces in each boiler *3 Cor* Material *Steel* Outside diameter *44 1/2"*
Length of plain part *top* Thickness of plates *bottom* *4 1/2"* Description of longitudinal joint *Weld* No. of strengthening rings *✓*
Working pressure of furnace by the rules *210* Combustion chamber plates: Material *Steel* Thickness: Sides *1 1/2"* Back *1 1/2"* Top *1 1/2"* Bottom *1 1/2"*
Pitch of stays to ditto: Sides *8 1/2 x 8* Back *8 1/2 x 8* Top *8 1/2 x 8* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *218 lbs*
Material of stays *Steel* Area at smallest part *1 1/2 x 6* Area supported by each stay *68 sq* Working pressure by rules *231 lbs* End plates in steam space:
Material *Steel* Thickness *1 1/4"* Pitch of stays *21 x 1 1/4"* How are stays secured *D.N. Soot* Working pressure by rules *201 lbs* Material of stays *Steel*
Area at smallest part *6.09 sq* Area supported by each stay *35 1/2 sq* Working pressure by rules *200 lbs* Material of Front plates at bottom *Steel*
Thickness *1"* Material of Lower back plate *Steel* Thickness *3/4"* Greatest pitch of stays *15 x 8 1/2* Working pressure of plate by rules *230 lbs*
Diameter of tubes *2 1/2"* Pitch of tubes *3 3/4 x 3 3/4* Material of tube plates *Steel* Thickness: Front *1"* Back *1 1/2"* Mean pitch of stays *9 1/4"*
Pitch across wide water spaces *13 1/2"* Working pressures by rules *212 lbs* Girders to Chamber tops: Material *Steel* Depth and
thickness of girder at centre *20 x 9 1/2 x 3 1/4"* Length as per rule *34 1/2"* Distance apart *8 1/2 x 4"* Number and pitch of stays in each *3 @ 8"*
Working pressure by rules *206 lbs* Steam dome: description of joint to shell *none* % of strength of joint *✓*
Diameter *✓* Thickness of shell plates *✓* Material *✓* Description of longitudinal joint *✓* Diam. of rivet holes *✓*
Pitch of rivets *✓* Working pressure of shell by rules *✓* Crown plates *✓* Thickness *✓* How stayed *✓*
SUPERHEATER. Type *none* Date of Approval of Plan *✓* Tested by Hydraulic Pressure to *✓*
Date of Test *✓* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *✓*
Diameter of Safety Valve *✓* Pressure to which each is adjusted *✓* Is Easing Gear fitted *✓*

