

REPORT ON MACHINERY.

No. 6974

TUE. AUG. 15. 1911

Date of writing Report 3rd Aug. 11 When handed in at Local Office 14th Aug. 10 11 Port of Belfast 12th Aug.
No. in Survey held at Belfast Date, First Survey 11th Aug 1910 Last Survey 31st May 1911
Reg. Book. J.S.S. "Egra" (Number of Visits 493)
on the J.S.S. "Egra" Tons { Gross 5108
Net 2345
Master A. C. Muir Built at Belfast By whom built Workman Clark & Co. When built 1911
Engines made at Belfast By whom made " when made "
Boilers made at " By whom made " when made "
Registered Horse Power " Owners British India Steam Nav. Co. belonging to Glasgow
Nom. Horse Power as per Section 28 1062 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
ENGINES, &c.—Description of Engines Two Screw Triple Expansion No. of Cylinders 6 No. of Cranks 6
Dia. of Cylinders 24 1/2" - 41" - 69" Length of Stroke 48" Revs. per minute 90 Dia. of Screw shaft 13.95" 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 4' - 8"
Dia. of Tunnel shaft 13.04" Dia. of Crank shaft journals 13.69" Dia. of Crank pin 13.75" Size of Crank webs 36" x 98" Dia. of thrust shaft under
collars 13 3/4" Dia. of screw 15' - 9" Pitch of Screw 2' - 0" No. of Blades 3 State whether moveable Yes Total surface 69 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 see other sheet No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 4 - 3 1/2" & 4 - 3 1/2" Independent In Holds, &c. 9 - 3 1/2" 1 - 2 1/2"
No. of Bilge Injections 2 sizes 9" Connected to condenser, or to circulating pump Pumps a separate Donkey Suction fitted in Engine room & size are as above
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 Yes
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 Fore hold suction How are they protected Wood casing
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
Dates of examination of completion of fitting of Sea Connections 9-2-11 of Stern Tube 13-2-11 Screw shaft and Propeller 27-3-11
Is the Screw Shaft Tunnel watertight Stated & fitted with a watertight door Yes worked from Top platform Engine Room
BOILERS, &c.—(Letter for record S) Manufacturers of Steel M. Bear & Co. & Co. Ltd.
Total Heating Surface of Boilers 10426 sq. ft. Forced Draft fitted Yes No. and Description of Boilers 2 Double End Cyl.
Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 28-2-11 No. of Certificate 441
Can each boiler be worked separately Yes Area of fire grate in each boiler 130 sq. ft. No. and Description of Safety Valves to
each boiler 3 - direct Spring Area of each valve 12.56 sq. in. Pressure to which they are adjusted 200 lbs. Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 15" Mean dia. of boilers 15' - 9" Length 21' - 0" Material of shell plates Steel
Thickness 3/8" Range of tensile strength 28 - 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L. & Y.
long. seams Butt Lap Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 10 1/2" Lap of plates on width of butt straps 23 1/2"
Per centages of strength of longitudinal joint 91% Working pressure of shell by rules 233 lbs. Size of manhole in shell 18" x 13"
Size of compensating ring M. Keir No. and Description of Furnaces in each boiler 8 - Morrison Material Steel Outside diameter 43 1/2"
Length of plain part top 3' 9" Thickness of plates bottom 3' 9" Description of longitudinal joint Weld No. of strengthening rings 39
Working pressure of furnace by the rules 225 lbs. Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 5/8"
Pitch of stays to ditto: Sides 8 3/4" x 7 1/4" Back " Top 8 3/4" x 7 1/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 207 lbs.
Material of stays Steel Diameter at smallest part 1 1/4" Area supported by each stay 64.9 sq. in. Working pressure by rules 214 lbs. and plates in steam space:
Material Steel Thickness 1 1/2" Pitch of stays 19 1/2" x 15 1/2" How are stays secured Nuts & Washers Working pressure by rules 201 lbs. Material of stays Steel
Material Steel at smallest part 6.66 sq. in. supported by each stay 307.4 sq. in. Working pressure by rules 225 lbs. Material of Front plates at bottom Steel
Thickness 1" Material of Lower back plate " Thickness " Greatest pitch of stays " Working pressure of plate by rules "
Diameter of tubes 2 1/2" Pitch of tubes 3 1/2" x 3 5/8" Material of tube plate Steel Thickness: Front 5/8" Back 1 1/8" Mean pitch of stays 9 1/4"
Pitch across wide water spaces 13 1/2" Working pressures by rules 204 lbs. Girders to Chamber tops: Material Steel Depth and
thickness of girder at centre 8 1/4" x (3/4" x 2) Length as per rule 4' - 8 3/8" Distance apart 8 1/2" Number and pitch of stays in each 6 - 7 1/2" x 7 1/4"
Working pressure by rules 200 lbs. 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 _____
 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 WORKMAN, CLARK & CO., LIMITED
 Manufacturer.

Dates of Survey while building { During progress of work in shops - 1910, Aug 11, Sep 8, 16, 30, Oct 27, Nov 3, 7, 10, 15, 18, 21, 24, 28, 30
 { During erection on board vessel - 31st May 1911 & 12th Aug 1911.
 Total No. of visits 64

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

Dates of Examination of principal parts—Cylinders 15—Slides 10 Covers 8 Pistons Rods
 Connecting rods 8/3/11 Crank shaft 15/11/11 Tunnel shafts Screw shaft 2/2/11 Propeller 13/2/11
 Stern tube 10/2/11 Steam pipes tested 31/3/11 Engine and boiler seatings 28/2/11 Engines holding down bolts 28/2/11
 Completion of pumping arrangements 31-5-11 Boilers fixed 22/2/11 Engines tried under steam 12/5/11
 Main boiler safety valves adjusted 12/5/11 Thickness of adjusting washers 5 5/16
 Material of Crank shaft I. Steel Identification Mark on Do. 46488 27-2-11 Material of Thrust shaft 46488 27-2-11 Identification Mark on Do. 46488 27-2-11
 Material of Tunnel shafts 46488 27-2-11 Identification Marks on Do. 46488 27-2-11 Material of Screw shafts 46488 27-2-11 Identification Marks on Do. 46488 27-2-11
 Material of Steam Pipes W. Iron 27-2-11 Test pressure 600 lb

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

The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules. The materials and the workmanship are of good description.

The vessel has left for the Clyde, to undergo the steam trials of the machinery, and when this has been done to the satisfaction of the Greenock Surveyors, Messrs of opinion this vessel will be eligible for release of + L.M.C. (with date), also notation of "Fused Wraps" & "Electric Light".

Damage: The following was done due to damage: Starboard tail plate drawn and examined and found in order: plating let adrift & relined: holding down bolts all tightened up & overhauled. Engines tried under steam on completion of repairs and all found satisfactory. The damage was stated to have been caused by grounding on the 48 hours to

The amount of Entry Fee £ 3 : 0 :
 Special £ 41 : 11 :
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 2-6-11
 When received, 8-6-11

Committee's Minute

FRI. AUG. 18. 1911

Assigned

+ L.M.C. 8. 11

MACHINERY CERTIFICATE
WRITTEN

© 2021

Lloyd's Register
Foundation

Date of writing Rep
 No. in Survey
 Reg. Book.
 on the

Master

Engines made at

Boilers made at

Registered Horse

MULTITUB

(Letter for recon

Boilers 2-2

No. of Certificate

safety valves to

Are they fitted

Smallest distanc

Material of she

Descrip. of rive

Top of plates

rules 233

boiler 4-M

Description of l

plates: Materi

Top 7 1/2 x 8 1/4

smallest part

Pitch of stay

Area supported

Lower back pl

Pitch of tube

water spaces

girder at centr

Working press

separately

holes

If stiffened wit

Working press

Dates of Survey while building { Dur
 { wo
 { Dur
 { bo

GENERA

Survey F
 Travelling

Committ

Assigned