

REPORT ON MACHINERY.

No. 25473

THU. OCT. 31. 1912

Date of writing Report 19 When handed in at Local Office 20. 10. 12 Port of Sunderland
No. in Survey held at Sunderland Date, First Survey 3 July Last Survey 20 30 Oct 1912
Reg. Book. on the Steel S S "Denise" Number of Visits 20 Gross 1695.88
Master L. Lebonier Built at Sunderland By whom built Osborne Engineering Co (S) Ltd When built 1912
Engines made at Sunderland By whom made North Eastern Marine Eng Co Ltd 20/8 when made 1912
Boilers made at Sunderland By whom made North Eastern Marine Eng Co Ltd 20/8 when made 1912
Registered Horse Power Owners Fernand Bonet Port belonging to Calvi
Nom. Horse Power as per Section 28 189 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks Three
Dia. of Cylinders 19" x 31" x 51" Length of Stroke 36" Revs. per minute 81 Dia. of Screw shaft as per rule 11.43" Material of screw shaft Steel
Is the screw shaft fitted with a continuous liner the whole length of the stern tube No 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 Composition at ends of liners Length of stern bush 3'-10 1/2"
Dia. of Tunnel shaft as per rule 9.53" Dia. of Crank shaft journals as per rule 10.46" Dia. of Crank pin 10 3/8" Size of Crank webs 15 1/4" x 6 1/2" Dia. of thrust shaft under
collars 10 3/8" Dia. of screw 13 1/2" Pitch of Screw 13 1/2" No. of Blades 4 State whether moveable No Total surface 58 sq ft
No. of Feed pumps Two Diameter of ditto 3" Stroke 16 1/2" Can one be overhauled while the other is at work Yes
No. of Bilge pumps Two Diameter of ditto 3 1/2" Stroke 16 1/2" Can one be overhauled while the other is at work Yes
No. of Donkey Engines Two Sizes of Pumps Feed 8" x 5" x 8"; Ballast 6" x 4" x 9" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Three @ 2 1/2" dia. In Holds, &c. Two @ 3" dia.
aft hold 3 @ 3" dia. & one in tunnel well 2 1/2" dia.
No. of Bilge Injections 1 size 3 1/2" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2" dia.
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 No
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 Above
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 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
Dates of examination of completion of fitting of Sea Connections 23-9-12 of Stern Tube 4-10-12 Screw shaft and Propeller 4-10-12
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel J. Spencer & Sons Ltd.
Total Heating Surface of Boilers 3190 Is Forced Draft fitted No No. and Description of Boilers Two single ended
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 26-9-12 No. of Certificate 3049
Can each boiler be worked separately Yes Area of fire grate in each boiler 41 sq ft No. and Description of Safety Valves to
each boiler Two direct spring Area of each valve 11.04 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 24" Mean dia. of boilers 12'-10" Length 11'-0" Material of shell plates Steel
Thickness 1" Range of tensile strength 28 1/2 to 32 1/2 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.
long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 9 3/8 Lap of plates or width of butt straps 18 1/2"
Per centages of strength of longitudinal joint rivets 84.8 plate 84.3 Working pressure of shell by rules 180.1 Size of manhole in shell 16" x 12"
Size of compensating ring dished No. and Description of Furnaces in each boiler Two plain Material Steel Outside diameter 43 3/4"
Length of plain part top 80 1/2" Thickness of plates crown 5 1/4" bottom 6 1/4" Description of longitudinal joint welded No. of strengthening rings
Working pressure of furnace by the rules 181.2 Combustion chamber plates: Material Steel Thickness: Sides 3/4" Back 1 1/16" Top 3/4" Bottom 3/4"
Pitch of stays to ditto: Sides 8 1/2" x 11 1/8" Back 10" x 8 1/2" Top 8 1/2" x 11" If stays are fitted with nuts or riveted heads No Working pressure by rules 181 lbs
Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 89.4 sq in Working pressure by rules 180 lbs End plates in steam space:
Material Steel Thickness 1 1/4" Pitch of stays 22" x 15 3/8" How are stays secured D. nuts & washers Working pressure by rules 180 lbs Material of stays Steel
Diameter at smallest part 3.03" Area supported by each stay 40.4 sq in Working pressure by rules 186 lbs Material of Front plates at bottom Steel
Thickness 3/4" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 14 1/8" x 10" Working pressure of plate by rules 181 lbs
Diameter of tubes 3 1/4" Pitch of tubes 45 1/8" x 4 3/4" Material of tube plates Steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 10 1/2"
Pitch across wide water spaces 14 1/2" Working pressures by rules 192 lbs Girders to Chamber tops: Material Steel Depth and
thickness of girder at centre 8 1/2" x 2" Length as per rule 31" Distance apart 11" Number and pitch of stays in each 2 @ 8 1/2"
Working pressure by rules 182 lbs 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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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 casing 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:

Two each bolts & nuts for top & bottom ends and main bearings, one set coupling bolts, valves for all pumps one set each, one propeller. Assorted bolts nuts & iron

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LD

The foregoing is a correct description,

Manufacturer.

Geo. D. Peir.
25/10/12. Manager.

Dates of Survey while building { During progress of work in shops -- 1912 Jul 3 30 Aug 9 16 24 29 30 Sept 5 7 12 13 23 26 30
During erection on board vessel -- Oct 3 7 8 9 11 30
Total No. of visits (20)

Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 12-9-12 Slides 12-9-12 Covers 9-8-12 Pistons 9-8-12 Rods 3-4-12
Connecting rods 3-4-12 Crank shaft 12-9-12 Thrust shaft 29-8-12 Tunnel shafts 16-9-12 Screw shaft 3-10-12 Propeller 3-10-12
Stern tube 3-10-12 Steam pipes tested 8-10-12 Engine and boiler seatings 23-9-12 Engines holding down bolts 9-10-12
Completion of pumping arrangements 9-10-12 Boilers fixed 4-10-12 Engines tried under steam 11-10-12
Main boiler safety valves adjusted 11-10-12 Thickness of adjusting washers Stand B. A 5/8", F 1/2"; Port B. A 5/8", F 1/2".
Material of Crank shaft Steel Identification Mark on Do. 1421MB 4665 H.K. Material of Thrust shaft Steel Identification Mark on Do. 1420 N.B.
Material of Tunnel shafts Steel Identification Marks on Do. 1433 P.A. 4955 P.A. 4954 P.A.
Material of Steam Pipes Mild drawn copper 4" bore x 8 lbs. Test pressure 400 lbs.

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

The machinery of this vessel has been built under special survey, the materials and workmanship are of good quality and the hydraulic tests on the boilers proved satisfactory. The whole of the machinery has been securely fitted on board and tried under steam & is in good & safe working condition and eligible in my opinion to be classed share record + L.M.C. 10-12. in the Register Book.

The Main Boilers have also been tested on board in accordance with the French Government requirements and the discs stamped 4-10-12. R.

It is submitted that this vessel WILL BE eligible for the record + L.M.C. 10.12.

The amount of Entry Fee £ 2 : 0 : 0 When applied for, 29.10.12
Special .. £ 28 : 4 : 0
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : :
When received, 7/11/12

Committee's Minute

Assigned

FRI. NOV 1 - 1912

+ L.M.C. 10.12

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



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