

REPORT ON MACHINERY

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 Survey held at Bilbao Date, First Survey 6-2-15 Last Survey 15-11-15 1916
 Book. Supp on the Single screw steamer "Mudela N^o 2" (Number of Visits 36)
 Recalca Built at Bilbao By whom built Astilleros del Nervion Tons { Gross 1541 69
 Net 930 79
 Made at Glasgow By whom made Ross & Duncan (N^o 1006) when made 1916
 Made at Bilbao By whom made Astilleros del Nervion when made 1916
 Rated Horse Power Owners Soc A^{na} Fabrica San Francisco del Nervion Port belonging to Bilbao Spain
 Horse Power as per Section 28 139 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 of Cylinders 16, 26, 44 Length of Stroke 33 Revs. per minute 80 Dia. of Screw shaft as per rule 9.45 Material of screw shaft as fitted 9.1/2 screw shaft) iron
 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
 propeller boss yes If the liner is in more than one length are the joints burned yes If the liner does not fit tightly at the part
 in the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive no If two
 are fitted, is the shaft lapped or protected between the liners no Length of stern bush 3'-2"
 of Tunnel shaft as per rule 8.33 Dia. of Crank shaft journals as per rule 8.75 Dia. of Crank pin 8 7/8 Size of Crank webs 5 3/4 x 16 1/2 Dia. of thrust shaft under
 as fitted 8.3/8 as fitted 8.75
 Dia. of screw 11.9" Pitch of Screw 14'-0" No. of Blades 4 State whether moveable no Total surface 47 sq ft
 Feed pumps 2 Diameter of ditto 2 3/4 Stroke 16 1/2 Can one be overhauled while the other is at work yes
 Bilge pumps 2 Diameter of ditto 2 3/4 Stroke 16 1/2 Can one be overhauled while the other is at work yes
 Donkey Engines 3 Duplex Sizes of Pumps 12 0 x 75 x 120 mm No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 2 of 2 1/2 In Holds, &c. 1 of 2 1/4 Each Side fore Hold & after hold.
 well on of 2 1/4
 Bilge Injections 1 sizes 3 1/2 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size yes 2 1/2
 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 none
 connections with the sea direct on the skin of the ship yes Are they Valves or Cocks valves + Cocks
 sized 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
 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
 pipes are carried through the bunkers none How are they protected

All Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes
 of examination of completion of fitting of Sea Connections 26/9/16 of Stern Tube 12/7/16 Screw shaft and Propeller 12/7/16
 Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Top Grating in M Space
 as Rpt 4 803 for Rules
 ENGINES, &c.—(Letter for record S) Manufacturers of Steel James Dunlop & Coy

Heating Surface of Boilers 2386 Is Forced Draft fitted no No. and Description of Boilers 2, S. Ended
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 22-7-16 No. of Certificate 12
 each boiler be worked separately yes Area of fire grate in each boiler 39 1/2 No. and Description of Safety Valves to
 boiler 2 direct Spring Area of each valve 7 Pressure to which they are adjusted 180 Are they fitted with easing gear yes
 at distance between boilers or uptakes and bunkers or woodwork 14 Mean dia. of boilers 11.6 Length 10-6 Material of shell plates steel
 thickness 3 1/32 Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2 R lap
 seams 3 R Diameter of rivet holes in long. seams 1 1/8 x 3/16 Pitch of rivets 8 1/4 Lap of plates or width of butt straps 17 1/2

Stages of strength of longitudinal joint rivets 83.6 Working pressure of shell by rules 180 Size of manhole in shell 12 x 16
 plate 88.5
 compensating ring 28 x 30 3/32 No. and Description of Furnaces in each boiler 2, by lines Material steel Outside diameter 3'-10 1/4
 of plain part top 8 5/16 Thickness of plates crown 9/16 Description of longitudinal joint welded No. of strengthening rings
 bottom
 Working pressure of furnace by the rules 209 Combustion chamber plates: Material steel Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 11/16
 of stays to ditto: Sides 8 3/4 x 7 3/4 Back 8 3/4 x 8 1/4 Top 8 2 1/2 x 7 3/4 If stays are fitted with nuts or riveted heads nut both ends Working pressure by rules 187

Material of stays steel Diameter at smallest part 1.76 Area supported by each stay 8 3/4 x 7 3/4 Working pressure by rules 195 End plates in steam space:
 Material steel Thickness 3 1/32 Pitch of stays 16 3/8 x 15 1/2 How are stays secured N, N, & W Working pressure by rules 190 Material of stays steel
 diameter at smallest part 2 3/8 Area supported by each stay 16 3/8 x 15 1/2 Working pressure by rules 180 Material of Front plates at bottom steel
 thickness 27/32 Material of Lower back plate steel Thickness 27/32 Greatest pitch of stays 8 3/4 x 8 1/4 Working pressure of plate by rules 180
 diameter of tubes 3 1/4 Pitch of tubes 4 3/8 x 4 1/4 Material of tube plates steel Thickness: Front 27/32 Back 3/4 Mean pitch of stays 8 3/4

across wide water spaces 14 Working pressures by rules 244 Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 7 3/4 x 1 3/4 Length as per rule 30 Distance apart 8 1/2 Number and pitch of stays in each 3 at 7 3/4
 Working pressure by rules 185 Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked
 solely Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet
 Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 strengthened 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



