

REPORT ON MACHINERY.

No. 5977

Received at London Office

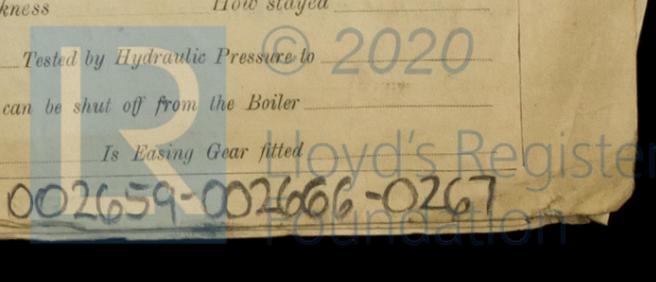
Date of writing Report **APRIL 11th 1922** When handed in at Local Office **APRIL 11th 1922** Port of **BILBAO**
 No. in Survey held at **BILBAO** Date, First Survey **Aug. 30th 1921** Last Survey **18th March 1922**
 Reg. Book. on the **STEEL STEAMER "ALDECOA"** (Number of Visits) Gross Tons **NAVAL** Net Tons

Master Built at **BILBAO** By whom built **SOCIEDAD ESPAÑOLA DE CONSTRUCCION** When built
 Engines made at **GREENOCK** By whom made **JOHN G. KINCAID & CO LTD** when made
 Boilers made at **RENFREW** By whom made **BABCOCK & WILCOX** when made
 Registered Horse Power Owners **SEÑOR DON FRANCISCO ALDECOA** Port belonging to **BILBAO**
 Nom. Horse Power as per Section 28 **601** Is Refrigerating Machinery fitted for cargo purposes **NO** Is Electric Light fitted **YES**

ENGINES, &c.—Description of Engines **TRIPLE COMPOUND** No. of Cylinders **3** No. of Cranks **3**
 Dia. of Cylinders **27" - 44" & 73"** Length of Stroke **48"** Revs. per minute **75** Dia. of Screw shaft as per rule **14.87** Material of screw shaft **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 **YES** 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 **YES** If two
 liners are fitted, is the shaft lapped or protected between the liners **YES** Length of stern bush **60"**
 Dia. of Tunnel shaft as per rule **13.33** Dia. of Crank shaft journals as per rule **13.99** Dia. of Crank pin **14** Size of Crank webs **21" x 9"** Dia. of thrust shaft under
 rollers **16"** Dia. of screw **18" - 0** Pitch of Screw **17" - 0** No. of Blades **4** State whether moveable **NO** Total surface **107 Sq ft.**
 No. of Feed pumps **2** Diameter of ditto **4"** Stroke **27"** Can one be overhauled while the other is at work **YES**
 No. of Bilge pumps **2** Diameter of ditto **4"** Stroke **27"** Can one be overhauled while the other is at work **YES**
 No. of Donkey Engines **4** Sizes of Pumps **14" x 18"** **9" x 18"** **11 1/2" x 12"** No. and size of Suctions connected to both Bilge and Donkey pumps
 in Engine Room **6** **3 1/2" SUCTIONS & 4** **2 1/2" to COFFERDAMS** In Holds, &c. **3** **3 1/2" SUCTIONS TO N° 1 HOLD** **2** **3 1/2" to N° 2**
2 **3 1/2" to N° 3 HOLD** **1** **3 1/2" to N° 4 HOLD & 1** **3 1/2" to N° 5 HOLD & 2** **1/4" TUNNEL BILGE SUCTION**
 No. of Bilge Injections **1** sizes **9"** Connected to ~~condenser~~ circulating pump 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 **YES**
 Are all connections with the sea direct on the skin of the ship **YES** (SEE SKETCH) 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 **STEAM & EXH. TO HEATING COILS. N° 2 TANK** How are they protected **OIL FUEL BUNKERS**
 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 **DECK**

OILERS, &c.—(Letter for record) See Glasgow Report. 4641180. **COLVILLE & SONS LTD.**
 Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers **3** **BABCOCK & WILCOX WATER TUBE**
 Working Pressure **180 lbs.** Tested by hydraulic pressure to **360 lbs.** Date of test **8th & 23rd FEBRUARY** No. of Certificate
 Can each boiler be worked separately **YES** Area of fire grate in each boiler **92.9 sq ft** No. and Description of Safety Valves to
 each boiler **2** **SPRING LOADED** Area of each valve Pressure to which they are adjusted **184 lbs** Are they fitted with easing gear **YES**
 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 rivets..... Working pressure of shell by rules Size of manhole in shell
 plate.....
 Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter
 Length of plain part top..... Thickness of plates crown..... Description of longitudinal joint No. of strengthening rings
 bottom.....
 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 Area 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
 Area 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 Steam dome: description of joint to shell % 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 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



IS A DONKEY BOILER FITTED? No.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - 2 Com. rod top end & bottom end bolts & nuts. 2 main bearing bolts & nuts. 1 Set of Coupling bolts. 1 Set of feed & bilge pump valves. 1 Escape & spring of each size. 1 Safety valve & spring. Holding down bolts & nuts. Impeller & spindle for Air pump. 1 Screw shaft. 1 Propeller. Several assorted sizes of bolts, nuts & washers. 1. Full set of spare gear for W.T. Boiler & Oil fuel burning system.

The foregoing is approved by the **COMITÉ ESPAÑOL DE CONSTRUCCIÓN NAVAL**

Frank W. Benson

for the installers Manufacturer.

Jefe del Departamento de Buques

Dates of Survey while building: During progress of work in shops - 1921. Aug. 30. Oct. 9, 13, 17 & 25. Nov. 2, 10, 21 & 25. Dec. 2, 6, 10, 12, 16, 20, 22, 27, 30 & 31. During erection on board vessel - 1922. Jan. 3, 5, 9, 16, 18, 23, 25, 28, 30, 31. Feb. 8, 9, 11, 13, 16, 23, 24. March. 2, 6, 8, 13, 14, 15, 18. Total No. of visits 45. Is the approved plan of main boiler forwarded herewith? Yes.

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 30/1/22, Engine and boiler seatings 17/10/21, Engines holding down bolts 13/2/22, Completion of pumping arrangements 13/3/22, Boilers fixed 3/1/22, Engines tried under steam 8/3/22, Completion of fitting sea connections 23/1/22, Stern tube 25/1/22, Screw shaft and propeller 16/12/21, Main boiler safety valves adjusted 2/3/22 & 6/3/22, Thickness of adjusting washers Pat. Bl. P. 137, 8. 137, Pat. Bl. P. 157, 8. 137, Ford Bl. P. 5, Material of Crank shaft Steel, Identification Mark on Do. 350, Material of Thrust shaft Steel, Identification Mark on Do. 350, Material of Tunnel shafts Steel, Identification Marks on Do. 350, Material of Screw shafts Steel, Identification Marks on Do. 350, Material of Steam Pipes Steel, Test pressure 540 lb., Is an installation fitted for burning oil fuel? Yes, Is the flash point of the oil to be used over 150°F? Yes, Have the requirements of Section 49 of the Rules been complied with? Yes (except Clause 16. See attached copies of the Rules), Is this machinery duplicate of a previous case? Yes, If so, state name of vessel: 'Mar Adriatico'.

General Remarks (State quality of workmanship, opinions as to class, &c. Workmanship good. The engines and boilers of this vessel have been examined by me while being installed on board at Bilbao. The water tube boiler were subjected to a hydraulic test of 360 lbs after erection on board & found satisfactory. The machinery & boilers were tried under steam & found satisfactory. The oil fuel system was tried under working conditions, found in order and in accordance with Section 49 of the Rules, except for the fitting of self closing cocks or valves at the connection of the flat glass gauges to the settling tanks.

This vessel is now eligible in my opinion to have the notations of L.M.C. 3-22. water tube boiler, electric lighting and fitted for burning of oil fuel, flash point above 150°F recorded in the Register Book subject to the fitting of self closing cocks or valves at the connection of the flat glass gauges to the settling tanks, or alternatively, for the present gauges to be dispensed with and other suitable means fitted for ascertaining the oil level in these tanks, at the earliest opportunity.

The amount of Entry Fee ... £ 175.00, Special ... £ 1500.00, Donkey Boiler Fee ... £ 250.00, Travelling Expenses (if any) £ 71.00, When applied for: 10-4-22, When received: 10-4-22

C. H. Fowling, Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 23 JAN. 1923

Assigned + Feb 3, 22, TUE. APR. 24 1923

Lloyd for oil fuel 3.22. F.P. above 150°F.

