

Rpt. 4.

REPORT ON MACHINERY

No. 811

Received at London Office

000-17703-321

Date of writing Report 12-1-1920 When handed in at Local Office 10 Port of

No. in Survey held at CADIZ Date, First Survey 2-6-19 Last Survey 3-1-1920

Reg. Book. 2438 on the S.S. "OPHIR"

Master JOSE ESCRIBANO Built at CADIZ By whom built ECHEVARRIETA Y LARRINAGA Tons Gross 538 Net 222 When built 1919

Engines made at BARCELONA By whom made ALEXANDER BROS. when made 1919

Boilers made at BILBAO By whom made CIA EUSKALDUNA when made 1919

Registered Horse Power Owners ECHEVARRIETA Y LARRINAGA Port belonging to CADIZ

Nom. Horse Power as per Section 28 75 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ENGINES, &c.—Description of Engines TRIPLE EXPANSION No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 12, 20, 32 Length of Stroke 24 Revs. per minute 90 Dia. of Screw shaft as per rule 7 7/8 Material of STEEL as fitted 8 7/8 screw shaft

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

Is 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

Are the liners fitted, is the shaft lapped or protected between the liners Length of stern bush 2-8

Dia. of Tunnel shaft as per rule 6-19 Dia. of Crank shaft journals as per rule 6-49 Dia. of Crank pin 6-49 Size of Crank webs 4 3/8 Dia. of thrust shaft under rollers 7 1/4 Dia. of screw 108 Pitch of Screw 13-0 No. of Blades 4 State whether moveable No Total surface 31 sq ft.

No. of Feed pumps 1 Diameter of ditto 2 7/16 Stroke 12 7/8 Can one be overhauled while the other is at work

No. of Bilge pumps 1 Diameter of ditto 2 7/16 Stroke 12 7/8 Can one be overhauled while the other is at work

No. of Donkey Engines 2 Sizes of Pumps 6x6x6 BALL - 6x4 1/2 x 6 FEED No. and size of Suctions connected to both Bilge and Donkey pumps in Engine Room 2 of 2 1/4 AND 1 of 2 In Holds, &c. 2 of 2 AND 3 of 3

No. of Bilge Injections 1 sizes 3 Connected to condenser or to circulating pump YES Is a separate Donkey Suction fitted in Engine room & size 2 1/4

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 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

Are that pipes are carried through the bunkers NONE How are they protected

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 Is it fitted with a watertight door worked from

ROLLERS, &c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers

Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate 38

Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to each boiler

Area of each valve Pressure to which they are adjusted 150 LBS Are they fitted with easing gear YES

Smallest distance between boilers or uptakes and bunkers or woodwork 72 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 MARKS ON BOILER

Percentages of strength of longitudinal joint rivets Working pressure of shell by rules

Size of compensating ring No. and Description of Furnaces in each boiler

Length of plain part top Thickness of plates crown Description of longitudinal joint bottom

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness Sides Back Top Bottom

Number 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 rule End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rule 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

Clearance 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

Number 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

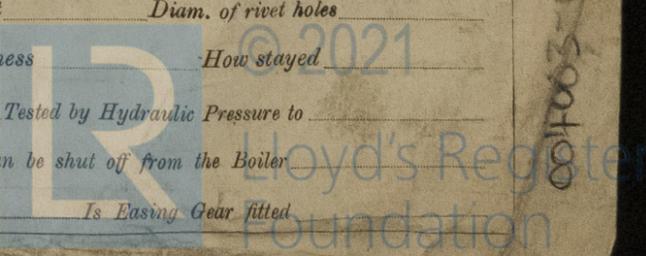
of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

LLOYDS TEST
360 LBS.
No 38 Material
16-4-19
A DE B.

CONSTRUIDOPOR LA
CIA. EUSKALDUNA.
Working pressure by rule
BILBAO No 14

8110-800100-0148



IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 TOP AND 2 BOTTOM END BOLTS AND NUTS, 2 MAIN BEARING BOLTS AND NUTS, 1 SET OF COUPLING BOLTS AND NUTS, 1 SET EACH, AIR, FEED AND BILGE PUMP VALVES, 1 MAIN AND DONKEY CHECK VALVE, 1 SAFETY VALVE SPRING, 6 JUNK RING BOLTS AND NUTS, 12 CONDENSER TUBES, 6 BOILER TUBE GAUGE GLASSES AND RINGS, 1/2 SET OF FIRE BARS, ASSORTED BOLTS, NUTS AND IRON.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 2-6-19, 11-9-19, 26-9-19, 30-9-19, 13-10-19, 28-10-19, 6-11-19, 3-1-20; During erection on board vessel ---; Total No. of visits EIGHT. Is the approved plan of main boiler forwarded herewith No

Dates of Examination of principal parts—Cylinders ✓ Slides ✓ Covers ✓ Pistons ✓ Rods ✓ Connecting rods ✓ Crank shaft ✓ Thrust shaft 30-9-19 Tunnel shafts ✓ Screw shaft 2-6-19 Propeller 2-6-19 Stern tube 2-6-19 Steam pipes tested 28-10-19 Engine and boiler seatings 30-9-19 Engines holding down bolts 30-9-19 Completion of pumping arrangements 28-10-19 Boilers fixed 11-9-19 Engines tried under steam 6-11-19 Completion of fitting sea connections 2-6-19 Stern tube 2-6-19 Screw shaft and propeller 2-6-19 Main boiler safety valves adjusted 3-1-20 Thickness of adjusting washers 1/16 PORT 1/16 STARS.

Material of Crank shaft STEEL Identification Mark on Do. ✓ Material of Thrust shaft STEEL Identification Mark on Do. ✓ Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts STEEL Identification Marks on Do. Material of Steam Pipes COPPER Test pressure 360 LBS PER INCH. Is an installation fitted for burning oil fuel ✓ Is the flash point of the oil to be used over 150°F. ✓ Have the requirements of Section 49 of the Rules been complied with ✓ Is this machinery duplicate of a previous case ✓ If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) THE MACHINERY OF THIS VESSEL WITH THE EXCEPTION OF THE BOILER HAS NOT BEEN CONSTRUCTED UNDER SPECIAL SURVEY AND HAS NOW BEEN FITTED EFFICIENTLY IN THE VESSEL AND TRIED UNDER STEAM WITH SATISFACTORY RESULTS AND IS ELIGIBLE IN MY OPINION TO BE CLASSED AND TO HAVE RECORD OF L.M.C. 11-19, SUBJECT TO BOILER PRESSURE NOT EXCEEDING 150 LBS. PER INCH UNTIL TAIL SHAFT HAS BEEN RENEWED.

Certificate (if required) to be sent to SURVEYORS CADIZ

Table with 4 columns: Fee Type, Amount (£), Unit (PESETAS), and Date/Condition. Rows include Special (£600.00), Donkey Boiler Fee (£), Travelling Expenses (£453.00).

Signature: H. J. Bell, Engineer Surveyor to Lloyd's Register of Shipping.

FRI. MAY. 6 1921

Committee's Minute TUE. MAR. 2 1920 FRI. JUN. 25 1920 Assigned L.M.C. 1:20

CERTIFICATE WRITTEN

FRI. DEC. 10 1920 FRI. 21 JAN. 1921 FRI. APR. 8 1921



Vertical text on the right edge of the page, including 'No. in Survey', 'eg. Book', 'on the', 'ster', 'gines made at', 'ilers made at', 'gistered Horse P', 'ULTITUBU', 'tter for record', 'ilers', 'of Certificate', 'ty valves to each', 'they fitted with', 'allest distance be', 'terial of shell pl', 'scrip. of riveting', 'of dates or wi', 's 1920', 'er 2 DELIANS', 'ription of longitud', 'es: Material', '1/2 x 1/2 of stays', 'allest part 1/4 of', 'h of stays 1/4 of', 'supported by ea', 'er back plate', 'h of tubes 4 1/2 x', 'r spaces 1 1/2', 'r at centre 1/2', 'king pressure by', 'meter', 'of rivets', 'ER HEATER.', 'of Test', 'ster of Safety Valve.', 'Here we', 'Certificate', 'es) During progre', 'vey) work in shops', 'le) During erectio', 'ing) board vessel', 'NERAL REM', 'ny and in', 'anship au', 'The bab', 'of Cadiz', 'urvey Fee ...', 'ravelling Expenses', 'mittee's Mini', 'gned'