

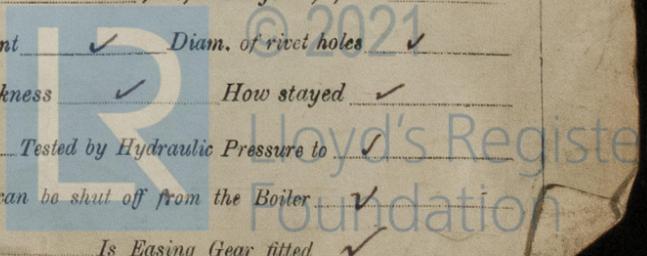
REPORT ON MACHINERY.

Date of writing Report 5th 1- 1919 When handed in at Local Office 5th 1- 1919 Port of Bilbao Received at London Office THU. 20 FEB. 1919
 No. in Survey held at Gijon Date, First Survey 28th 8-18 Last Survey 10th 1-1919
 Reg. Book. on the SS "GLORIA" (No. 2 ship built by Astilleros de Riera) (Number of Visits)
 Master FELIPE BASAURI Built at Gijon By whom built ASTILLEROS DE RIERA Tons { Gross 284
BARCELONA + converted Net 118
 Engines made at into maine type By whom made Astilleros de Riera when made 1919
 Boilers made at Bilbao By whom made TALLERES DE CONSTRUCCIONES METALICA when made 1918
ZORROZA BILBAO
 Registered Horse Power 142.62 Owners MACLENNAN & YBARRAI Port belonging to Bilbao
 Nom. Horse Power as per Section 28 142.62 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Compound Surface Condensing No. of Cylinders 2 No. of Cranks 2
 Dia. of Cylinders 375 x 650 Length of Stroke 395 Revs. per minute 180 Dia. of Screw shaft 145 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 ✓ 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 640
 Dia. of Intermediate shaft 135 Dia. of Crank shaft journals 145 Dia. of Crank pin 163 Size of Crank webs 330x110 Dia. of thrust shaft under
 collars 160 Dia. of screw 1980 Pitch of Screw 2590 No. of Blades 4 State whether moveable no Total surface ✓
 No. of Feed pumps one Diameter of ditto 70 Stroke 214 Can one be overhauled while the other is at work ✓
 No. of Bilge pumps one Diameter of ditto 70 Stroke 214 Can one be overhauled while the other is at work ✓
 No. of Donkey Engines 2 Sizes of Pumps 4 1/2 x 3 x 4 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 of 52 In Holds, &c. 4 of 52 in Holds and one of
70 at the fore peak
 No. of Bilge Injections 1 sizes 120 Connected to condensers to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size 120
 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 none
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks valves & cocks
 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 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 ✓

BOILERS, &c.—(Letter for record S) Manufacturers of Steel ALTOS HORNOS DE VIZCAYA
 Total Heating Surface of Boilers 750 Is Forced Draft fitted no No. and Description of Boilers one single ended multitubular
 Working Pressure 130 lbs Tested by hydraulic pressure to 260 lbs Date of test 8-11-18 No. of Certificate ✓
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 27 No. and Description of Safety Valves to
 each boiler 2 direct springs Area of each valve 6 Pressure to which they are adjusted 130 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 420 Mean dia. of boilers 9'-10" Length 9'-6" Material of shell plates Steel
 Thickness 27/32 Range of tensile strength 28-32 Are the shell plates welded or flanged none Descrip. of riveting: cir. seams 2 Rows
 long. seams 0 Butt St. Su. Ri Diameter of rivet holes in long. seams 1" Pitch of rivets 5 1/8" Lap of plates or width of butt straps 10 1/2"
 Per centages of strength of longitudinal joint rivets 144% Working pressure of shell by rules 171 lbs Size of manhole in shell 12" x 16"
 Size of compensating ring 6 7/8 x 27/32 No. and Description of Furnaces in each boiler 2 Plain Material Steel Outside diameter 36"
 Length of plain part 74" Thickness of plates 11/16 Description of longitudinal joint welded No. of strengthening rings none
 Working pressure of furnace by the rules 84 lbs Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 1/16" Top 5/8" Bottom 27/32"
 Pitch of stays to ditto: Sides 7 3/4 x 8" Back 8 5/8 x 8" Top 7 1/4 x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 204 lbs
 Material of stays Steel Area at smallest part 1.76 Area supported by each stay 68 Working pressure by rules 233 lbs Full plates in steam space:
 Material Steel Thickness 27/32 Pitch of stays 15 1/2 x 12" How are stays secured nuts & washers Working pressure by rules 172 lbs Material of stays Steel
 Area at smallest part 4.11 Area supported by each stay 186 Working pressure by rules 229 lbs Material of Front plates at bottom Steel
 Thickness 27/32 Material of Lower back plate Steel Thickness 27/32 Greatest pitch of stays 13" Working pressure of plate by rules 189 lbs
 Diameter of tubes 3 1/4 Pitch of tubes 4 1/4 x 4 1/4 Material of tube plates Steel Thickness: Front 27/32 Back 3/4 Mean pitch of stays 8 1/2 x 8 1/2"
 Pitch across wide water spaces 13" Working pressures by rules 151 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 7 1/4 x 3/4 Length as per rule 32" Distance apart 9 1/2" Number and pitch of stays in each 2-8"
 Working pressure by rules 203 lbs 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 at which each is adjusted ✓ Is Easing Gear fitted ✓

009570-009579-0059



IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

- 2 connecting Rod top end bolts & nuts
- 2 " " Bottom end bolts & nuts
- 2 main bearings bolts
- 1 set of coupling bolts
- 1 set of feed & bilge pump valves & one set of piston springs, & quantity of assorted bolts and nuts

The foregoing is a correct description,
ASTILLEROS RIERA (S.A.)

A. de Barona
President

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } *AUG-1918-28th Sep.-1918-2nd 4th - Dec 1918-3rd 4th*
 { During erection on board vessel --- } *1918 Dec. 27th 28th JAN 1919-9th 10th*
 Total No. of visits *9* Is the approved plan of main boiler forwarded herewith *no*

Dates of Examination of principal parts—Cylinders *2nd & 4th 9-18* Slides *2nd & 4th 9-18* Covers *2nd & 4th 9-18* Pistons *28-12-18* Rods *28-12-18*
 Connecting rods *27-12-18* Crank shaft *25-6-18* Thrust shaft *28-12-18* *INTER* shaft *28-12-18* Screw shaft *28-12-18* Propeller *27-12-18*
 Stern tube *3rd 4th 12-18* Steam pipes tested *27-12-18* Engine and boiler seatings *28-12-18* Engines holding down bolts *28-12-18*
 Completion of pumping arrangements *27-12-18* Boilers fixed *27-12-18* Engines tried under steam *10-1-19*
 Completion of fitting sea connections *8-1-18* Stern tube *3-5-18* Screw shaft and propeller *8-1-19*
 Main boiler safety valves adjusted *10-1-19* Thickness of adjusting washers *Star 18 7/8 Port 13 7/8*

Material of Crank shaft *Steel* Identification Mark on D. *LLOYD'S NO 2 28-12-18 A.D.B.* Material of Thrust shaft *Steel* Identification Mark on D. *LLOYD'S NO 1 28-12-18 A.D.B.*
 Material of *INTER* shafts *Steel* Identification Marks on D. *LLOYD'S NO 2 28-12-18 A.D.B.* Material of Screw shafts *Steel* Identification Marks on D. *LLOYD'S NO 3 28-12-18 A.D.B.*
 Material of Steam Pipes *Copper* Test pressure *260 lbs sq*

Is an installation fitted for burning oil fuel *no* 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.)
 All the parts of this engine have been opened out and examined, and all the bearings refitted, and the HP Cylinder Piston Rod has been renewed.
 The screw shaft is fitted with continuous liner and the dia. is 145 mm in accordance with the approved plans as per letters dated E 9-5-17/E 6-6-17
 The Boilers have been built under Special Survey, and the material and workmanship are sound and good and same have been tested by hydraulic pressure with satisfactory results. We enclose herewith the Boiler certificate for signature
 The engines and boiler were fitted on board, secured mounted and tested under steam trials with satisfactory results, also the auxiliary machinery.
 I have to point you out that the condenser steel plate is only 9 mm thick instead of 10 1/2 mm as approved by the plans dated 23/12/18 the builders inform us that if this could be compensated by fitting outside angle stiffeners.
 The machinery of this vessel in my opinion is eligible to have notation of MS 1-19 and ~~18~~ NB 1-19

Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ...	<i>100</i>	When applied for,
Special ...	<i>60.0</i>	<i>16-1 19.19</i>
Donkey Boiler Fee ...		When received,
Travelling Expenses (if any) <i>258</i>		<i>16-1 19.19</i>

A. de Barona
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
Assigned *See Report No 53504 LMC 1-19*

