

REPORT ON MACHINERY.

No. 17651

Date of writing Report May 19th 1920 When handed in at Local Office May 20th 1920 Port of Greenock
 No. in Survey held at Greenock Date, First Survey 16th April, 1919 Last Survey May 19th 1920
 Reg. Book. on the S/S "TELESFORA DE LARRINAGA." (Number of Visits 87)

Master R. F. Hagle Built at Port Glasgow By whom built R. Duncan & Co (N° 344) Tons { Gross 5780.
 Engines made at Greenock By whom made Rankin & Blackmore Ltd (N° 353) when made 1920-5. Net 3537.
 Boilers made at Greenock By whom made Rankin & Blackmore Ltd (N° 353) when made 1920-5.

Registered Horse Power Owners Larrinaga & Co Ltd. Port belonging to Liverpool

Tom. Horse Power as per Section 28 609. Is Refrigerating Machinery fitted for cargo purposes no. Is Electric Light fitted Yes.

Engines, &c.—Description of Engines Triple Expansion. No. of Cylinders 3. No. of Cranks 3.

Dia. of Cylinders 26" - 44" - 73" Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 15.03. Material of S.
 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

the propeller boss Yes. If the liner is in more than one length are the joints burned no joints 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 69"

Dia. of Tunnel shaft as per rule 13.58. Dia. of Crank shaft journals as per rule 14.26. Dia. of Crank pin 14 1/2" Size of Crank webs 26 1/2" x 10" Dia. of thrust shaft under

rollers 14 1/4" Dia. of screw 18.0" Pitch of Screw 16.9" to 18.3" No. of Blades 4 State whether moveable Yes. Total surface 120 sq ft

No. of Feed pumps 2 Diameter of ditto 9 x 7" Stroke 24" Can one be overhauled while the other is at work Yes.

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes.

No. of Donkey Engines 2 Sizes of Pumps 12 1/2" x 18" + 9 1/2" x 18" No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 4 - 3 1/2" Tunnel 1 - 3 1/2" In Holds, &c. Ford holds 6 - 3 1/2"

After holds 6 - 3 1/2"

No. of Bilge Injections 1 sizes 8 3/4" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes - 8 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 ✓

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 Both.

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.

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 Yes. Is it fitted with a watertight door Yes. worked from Top Platform Eng Room.

Boilers, &c.—(Letter for record ✓) Manufacturers of Steel Steel Co of Scotland, Lancashire Steel Co.

Total Heating Surface of Boilers 11800 sq ft Is Forced Draft fitted no. No. and Description of Boilers Two 4 cyl Multi Double Enders.

Working Pressure 200# Tested by hydraulic pressure to 400# Date of test 2/3/20 + 18/3/20 No. of Certificate 1431 + 1435.

Can each boiler be worked separately Yes. Area of fire grate in each boiler 123 sq ft No. and Description of Safety Valves to

each boiler 2 Spring Area of each valve 12.57 sq in Pressure to which they are adjusted 205# Are they fitted with easing gear Yes.

Smallest distance between boilers on uptakes and bunkers or woodwork 36" Mean dia. of boilers 17.3" Length 18.6" Material of shell plates S.

Thickness 1 1/2" Range of tensile strength 28 1/2 to 32 Tons Are the shell plates welded or flanged no. Descrip. of riveting: cir. seams LDR + TR

g. seams DBS/TR. Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10" Lap of plates or width of butt straps 21 3/4"

Percentages of strength of longitudinal joint 87.7 Working pressure of shell by rules 202# Size of manhole in shell 16" x 12"

Plate 85.0 No. and Description of Furnaces in each boiler 8 Doughton Material S. Outside diameter 44 1/4"

Length of plain part top Thickness of plates crown 3/32" Description of longitudinal joint Weld No. of strengthening rings ✓

Working pressure of furnace by the rules 213# Combustion chamber plates: Material S Thickness: Sides 47/64" Back none. Top 47/64" Bottom 13/16"

Ch of stays to ditto: Sides 9 3/8" Back none. Top 10 x 8 3/8" If stays are fitted with nuts or riveted heads nuts. Working pressure by rules 209#

Material of stays Iron. Area at smallest part 2.40 sq ft Area supported by each stay 88.75 sq ft Working pressure by rules 203# End plates in steam space:

Material S. Thickness 1 3/32" Pitch of stays 19" x 17" How are stays secured D.N.W. Working pressure by rules 205# Material of stays S.

Area at smallest part 6.33 sq ft Area supported by each stay 323 sq ft Working pressure by rules 204# Material of Front plates at bottom S.

Thickness 1 1/8" Material of Lower back plate none. Thickness ✓ Greatest pitch of stays ✓ Working pressure of plate by rules ✓

Diameter of tubes 3" Pitch of tubes 4 3/8" x 4 3/8" Material of tube plates S. Thickness: Front 1 1/8" Back 1 1/8" Mean pitch of stays 8 5/16"

Ch across wide water spaces 14" Working pressures by rules 206# Girders to Chamber tops: Material S. Depth and

Thickness of girder at centre 13" x 2 1/4" Length as per rule 51 7/8" Distance apart 10" Number and pitch of stays in each 5 @ 8 3/8"

Working pressure by rules 202# Steam dome: description of joint to shell none. % of strength of joint ✓

Material ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓

Ch 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 ✓

IS A DONKEY BOILER FITTED? *Yes.*

If so, is a report now forwarded? *Yes.*

SPARE GEAR. State the articles supplied:— *Two top & bottom end bolts & nuts. Two main bearing bolts & nuts. A set of coupling bolts & nuts. One set of Air, feed & bilge pump Valves. One set of piston rings. A quantity of assorted bolts & nuts & iron of various sizes. Two cast iron propeller blades.*

The foregoing is a correct description,

RANKIN & BLACKMORE, LTD.

H. K. Rankin

Director.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1919. *Apr. 16-25. May 5-7-13-22-26. June 2-3-24-30. July 15-23-25-31. Aug. 6-14-21-25-27. Sept. 1-3-12-16-17-26-30. Oct. 6-9-14-15-22-24-27-31. Nov. 6-10-18-24. Dec. 1-4-8-10-11-15-18-23-27-30. 1920. Jan. 8-12-16-21-24-28-30. Feb. 2-5-9-11-13-17-18-23-25-26. Mar. 1-2-5-8-10-11-16-18-24-29. Apr. 5-7-19-23-28. May 4-8-10-11-14-19.*
During erection on board vessel --
Total No. of visits *87.*

Is the approved plan of main boiler forwarded herewith *Yes.*

" " " donkey " " " *Yes.*

Dates of Examination of principal parts—Cylinders *16-9-19* Slides *16-9-19* Covers *16-9-19* Pistons *6-11-19* Rods *15-10-19*

Connecting rods *26-9-19* Crank shaft *21-8-19* Thrust shaft *21-8-19* Tunnel shafts *21-1-20* Screw shaft *15-12-19* Propeller *16-1-20*

Stern tube *21-1-20* Steam pipes tested *8-5-20* Engine and boiler seatings *16-1-20* Engines holding down bolts *29-3-20*

Completion of pumping arrangements *14/5/20* Boilers fixed *19-4-20* Engines tried under steam *11-5-20 & 19-5-20*

Completion of fitting sea connections *18-2-20* Stern tube *18-2-20* Screw shaft and propeller *18-2-20*

Main boiler safety valves adjusted *14-5-20* Thickness of adjusting washers *PORT V. 9/32" STARB 1/4"* *PORT 1/4" STARB 1/4"*

Material of Crank shaft *S* Identification Mark on Do. *W.G.H. + J.P.* Material of Thrust shaft *S* Identification Mark on Do. *W.G.H.*

Material of Tunnel shafts *S* Identification Marks on Do. *W.G.H. + J.P.* Material of Screw shafts *S* Identification Marks on Do. *J.P.*

Material of Steam Pipes *Wrought-Iron* Test pressure *600 lbs per sq. in.*

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 *Yes.* If so, state name of vessel *3 1/2" RAMON DE LARRINAGA (Eng 35)*

General Remarks (State quality of workmanship, opinions as to class, &c. *The Machinery and Boilers of this*

Vessel have been constructed under Special Survey and fitted in accordance with the Society's Rules. The materials and workmanship are sound and good. They are now in our opinion in safe working condition and it is submitted that the Vessel is eligible to have the record of T.L.M.C. 5-20 recorded in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. T.L.M.C. 5-20

The amount of Entry Fee ... £ *3* : *0* : *0* When applied for, *May 18th 1920*
Special ... £ *50* : *9* : *0*
Donkey Boiler Fee ... £ *✓* : : When received, *May 20th 1920*
Travelling Expenses (if any) £ *✓* : : *27*

Committee's Minute *GLASGOW 23 MAY 1920*

Assigned *+ L M C 5-20*

MACHINERY CERT. 28-5-20

J. Robinson & W. Lane
Engineer Surveyors to Lloyd's Register of Shipping.