Rpt. 4.

No. 8488

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 19 JUN 1934

Date of writing Report 30th May 1934 When handed in at Local Office 6th June 1934 Port of Bilbao

No. in Reg. Book 22915 Survey held at Vigo and Santander Date, First Survey 3rd Nov. 1932 Last Survey 29th May 1934 (Number of Visits 40)

on the steel Twin Sc. "CAMPRODON" Tons Gross / Net

Built at Santander By whom built Mesrs Cocho Hijos S.A. Yard No. 34 When built 1934

Engines made at Vigo By whom made Hijos de J. Barreras S.A Engine No. 115/116 when made 1933

Boilers made at Santander By whom made Cocho Hijos S.A. Boiler No. ✓ when made 1933

Registered Horse Power ✓ Owners Cia. Arrendataria del Monopolio de Petroleos. S.A. Port belonging to Barcelona

Nom. Horse Power as per Rule ~~80.24~~ 94 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Compound

Dia. of Cylinders 13½", 27" Length of Stroke 18" Revs. per minute 120 No. of Cylinders 2×2 No. of Cranks 2×2

Dia. of Crank shaft journals as per rule 5.5" as fitted 5 9/16" Dia. of Crank pin 5 9/16" Crank webs Mid. length breadth 10¾" Mid. length thickness 3¾" shrunk Thickness parallel to axis 3¾" Thickness around eye-hole 2 19/32"

Diameter of Thrust shaft under collars as per rule 6.5" as fitted 5 9/16" Diameter of INT. Tunnel shaft as per rule 5.24" as fitted 5¼" Diameter of Screw shaft as per rule 6.14" as fitted 6¼" Is the Screw shaft fitted with a continuous liner the whole length of the stern tube Yes (see below) Is the after end of the liner made watertight in the propeller boss Yes

If the liner is in more than one length ~~are the joints burned~~ Liners fitted in way of stern tube and shaft brackets only If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with plastic material insoluble in water and non-corrosive ✓

If two liners are fitted, is the shaft lapped or protected between the liners Coated with Intimastic enamel Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated Lignum vitae bushes Length of Stern Bush 24" Diameter of Propeller 7'-6"

Pitch of Propeller 7'-3" No. of Blades 4 State whether Moveable No Total Surface 25 square feet.

No. of Feed Pumps fitted to the Main Engines None Diameter of ditto ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

No. of Bilge Pumps fitted to the Main Engines None Diameter of ditto ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

Total number and size of power driven Feed and Bilge Auxiliary Pumps 2 duplex 6"×4"×6" (FEED) also Steam injector; 1 duplex 6"×5×6" (BILGE)

No. and size of Pumps connected to the Main Bilge Line 1 Bilge 6"×5"×6", 1 Ballast 12"×12"×12"

and size of Ballast Pumps 1 duplex 12"×12"×12" No. and size of Lubricating Oil Pumps, including Spare Pump ✓

two independent means arranged for circulating water through the Oil Cooler ✓ No. and size of suctions connected to both Main Bilge Pumps and Auxiliary Pumps;—In Engine and Boiler Room 5 @ 7½ dia. and in Holds, &c. ~~7 suctions 7½~~; pump room 2 @ 9½ connected to cargo pumps; 7½ suction to hand pump in fore hold.

and size of Main Water Circulating Pump Bilge Suctions 1 @ 15½ dia ✓ No. and size of Donkey Pump Direct Suctions

e Engine Room Bilges 1 @ 7½ dia. ✓ Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Yes

the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes

all connections with the sea direct on the skin of the ship Yes ✓ Are they Valves or Cocks Yes

they fixe 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

t 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

e arrangement of Valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one artment to another Yes Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door ✓ worked from ✓

IN BOILERS, &c.—(Letter for record S ✓) Total Heating Surface of Boilers 1700 sq. ft. ✓

Forced Draft fitted Yes ✓ No. and Description of Boilers 2 Vert. multitub. dry back. Working Pressure 125 lbs ✓

A REPORT ON MAIN BOILERS NOW FORWARDED? Yes ✓

A DONKEY BOILER FITTED? No If so, is a report now forwarded? ✓

ANS. Are approved plans forwarded herewith for Shafting 18/5/32 Main Boilers 22/10/32 Auxiliary Boilers ✓ Donkey Boilers ✓
(If not state date of approval)

al Pumping Arrangements 10/3/33 Oil fuel Burning Piping Arrangements

ARE GEAR. State the articles supplied:— 2 top + 2 bottom end bolts + nuts, 2 main bearing bolts, set spring bolts, set feed + bilge pump valves. Quantity assorted bolts + nuts + iron various sizes. 1 propeller shaft, 2 cast iron propellers. Set stern brasses, eccentric strap complete, set piston springs, HP + LP valve spindles, set check ves, set cylinder studs + bolts, 24 boiler tubes, 50 condenser tubes, 3 O.F. burners 12 nozzles. ✓

The foregoing is a correct description,

COCHO HIJOS S.A.

Manufacturer.

Dates of Survey while building	During progress of work in shops - -	1932:- Nov. 3.4.17.18 ; 1933:- Feb. 1.2; Apr. 4.10.11.13.21; May 3.4.12 Jun. 2.6.7; Jul. 11.12.28.29.31; Aug. 4.5; Oct. 19; Nov. 7.
	During erection on board vessel - - -	1933:- Nov. 15.16; Dec. 21 ; 1934:- Jan. 19; Feb. 8; Mar. 23; Apr. 4.19; May 16.17.23.24.28.29.
	Total No. of visits	40

Dates of Examination of principal parts—Cylinders 7/6/33, 11/7/33 Slides 11/7/33

Covers 11/7/33 Pistons 11/7/33 Rods 11/7/33

Connecting rods 11/7/33 Crank shaft 22/12/32, 27/12/32 Thrust shaft 18/3/33

~~Tunnel~~ INT. shafts 4/6/33, 11/6/33 Screw shaft 19/10/33, 7/11/33 Propeller 19/4/34

Stern tube 15/11/33 Engine and boiler seatings 4/8/33 Engines holding down bolts 21/12/33

Completion of pumping arrangements 29/5/34 Boilers fixed 19/1/34 Engines tried under steam 23/5/34

Completion of fitting sea connections 15/11/33 Stern tube 15/11/33 Screw shaft and propeller 19/4/34

Main boiler safety valves adjusted 16/5/34 Thickness of adjusting washers P 41, 347 ; S 354, 397

Material of Crank shaft S.M. steel Identification Mark on Do. P. Lloyds 186 - 22-12-32 GD / S. " 187 - 27-12-32 GD

Material of Thrust shaft " " Identification Mark on Do. P " 245 - 18-3-33 GD / S " 247 - 18-3-33 GD

Material of ~~Tunnel~~ INT. shafts " " Identification Marks on Do. P " 271A - 4-6-33 FB / S " 270 1-6-33 FB

Material of Screw shafts " " Identification Marks on Do. P " 391 - 19-10-33 GD / S " 392 - 19-10-33 GD / Spare " 398 - 7-11-33 JCK.

Material of Steam Pipes S.D. Steel Test pressure 375 lb Date of Test 4/4/34

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 the Rules for carrying and burning oil fuel been complied with Yes

Is this machinery duplicate of a previous case No If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. The Machinery of this vessel has been constructed under survey in accordance with approved plans, Secretary's letters and Rules. The workmanship is good and the machinery has been satisfactorily fitted on board and tested under full working conditions and is eligible in my opinion to be classed with the notation ✠ L.M.C. 5.34. "Fitted for O.F. 5.34. F.P. above 150°F"

The amount of Entry Fee ... £ :		When applied for, ...19
Special Pts ... £ 680 :		When received, Mar 2x-1934.
Donkey Boiler Fee ... £ :		
Travelling Expenses (if any) £ Pts 200 :		

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 6 JUL 1934 FRI. 17 AUG 1934

Assigned + LMC 5.34
Fitted for oil fuel 5.34 F.P. above 150° F.
F.D., C.L.

CERTIFICATE WRITTEN.

Certificate to be sent to

The Surveyors are requested not to write on or below the space for Committee's Minute.