

Report on Steam Turbine Machinery.

No. 135046

4a. Received at London Office **23 APR 1952**
 of writing Report **2-4-1952** When handed in at Local Office **10-4-1952** Port of **LIVERPOOL**
 in Survey held at **Birkenhead** Date, First Survey **7/9/50** Last Survey **14/3/1952**
 Book on the **Tanker "EVA PERON"** (Number of Visits **366**)
 Tons (Gross **12741** Net **7395**)
 It at **Birkenhead** By whom built **Cammell Laird & Co. Ltd** Yard No. **1206** When built **1952**
 Engines made at **Birkenhead** By whom made **Cammell Laird & Co. Ltd** Engine No. **1206** When made **1952**
 Boilers made at **Birkenhead** By whom made **Cammell Laird & Co. Ltd** Boiler No. **1206** When made **1952**
 Net Horse Power at Full Power **MAX. 6800 SERVICE 6200** Owners **Yacimientos Petroliferos Fiscales** Port belonging to **Buenos Aires**
11 Horse Power as per Rule **Old: 1580 New: 1360** Is Refrigerating Machinery fitted for cargo purposes **to** Is Electric Light fitted **yes**
 Trade for which Vessel is intended **open sea**

STEAM TURBINE ENGINES, &c.—Description of Engines **Double Reduction Impulse-Reaction**
 of Turbines Ahead **2** Direct coupled, single reduction geared } to **one** propelling shafts. No. of primary pinions to each set of reduction gearing **2**
 Astern **1** double reduction geared }
 Direct coupled to { Alternating Current Generator **3** phase **50** periods per second } rated **6800** Kilowatts **1500** Volts at **1500** revolutions per minute;
 supplying power for driving { Direct Current Generator }
 Propelling Motors, Type **Impulse-Reaction**
6800 Kilowatts **1500** Volts at **1500** revolutions per minute. Direct coupled, single or double reduction geared to **one** propelling shafts.

TURBINE	H. P.	I. P.	L. P.	ASTERN.
NO. OF ROWS	11	✓	1	Two 3 row wheels
NO. OF STAGES	✓	✓	15	✓
NO. OF ROWS IN EACH STAGE	✓	✓	2 rows in 1 stage 1 row in 14 stages	✓

Net Horse Power at each turbine
 H.P. **3600, 3530**
 I.P. **5800, 5618** 1st reduction wheel **903, 875**
 L.P. **3200, 2670** main shaft **111, 107.5**

Shaft diameter at journals
 H.P. **4 1/2"** Pitch Circle Diameter
 I.P. **7"**
 L.P. **7"**
 1st pinion **8-57.14.78"** 1st reduction wheel **55-0608"** Width of Face
 2nd pinion **17-219"** main wheel **140-068"** main wheel **38" + 3" gap**

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings
 1st pinion **8 3/4"** 1st reduction wheel **8 3/4"**
 2nd pinion **14 3/4"** main wheel **1-7 1/2"**

Pinion Shafts, diameter at bearings
 1st **7 1/2"** External
 2nd **6 1/4"** Internal
 1st **6 1/2"** 2nd **11"** diameter at bottom of pinion teeth
 2nd **7 3/8"**

Wheel Shafts, diameter at bearings
 1st **7 1/2"** diameter at wheel shroud, main **11-3 1/8"** Generator Shaft, diameter at bearings
 main **18"** Propelling Motor Shaft, diameter at bearings
 as per rule **15.85"** Thrust Shaft, diameter at collars
 as fitted **16"** as per rule **17.085"** as fitted **17 3/4"** Is the tube shaft fitted with a continuous liner **yes**

Intermediate Shafts, diameter as per rule **16"** as fitted
 Propeller Shaft, diameter as per rule **17.085"** as fitted
 Size Liners, thickness in way of bushes as per rule **.823"** Thickness between bushes as per rule **.617"** as fitted **.718"** Is the after end of the liner made watertight in the peller boss **yes** If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner **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**
 No liners are fitted, is the shaft lapped or protected between the liners **yes** Is an approved Oil Gland or other appliance fitted at the after end of the tube **to** If so, state type **yes** Length of Bearing in Stern Bush next to and supporting propeller **6-4 1/2"**
 Propeller, diameter **18.75'** Pitch **13.50** No. of Blades **4** State whether Moveable **to** Total Developed Surface **133** square feet.

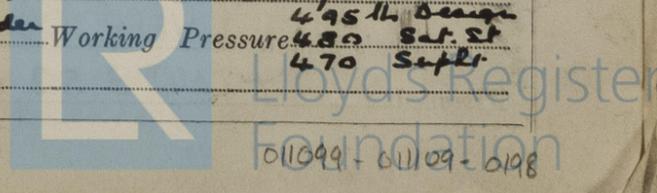
Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine **yes** Can the H.P. or I.P. Turbines exhaust direct to the condenser **yes** No. of Turbines fitted with astern wheels **one** Feed Pumps { No. and size **2-65000-84600 1/2" each** How driven **Steam Turbine**
 Pumps connected to the Main Bilge Line { No. and size **2 2 150 T/H, 1 2 300 T/H** How driven **Elec. Motor**
 Fast Pumps, No. and size **1 2 300 T/H** Lubricating Oil Pumps, including Spare Pump, No. and size **2 2 11500 gal/h each**

Two independent means arranged for circulating water through the Oil Cooler **yes** Suctions, connected both to Main Bilge Pumps and Auxiliary Pumps, No. and size:—In Engine and Boiler Room **1 2 6", 1 2 3 1/2"** In Pump Room **(main) 1 2 4" (back) 1 2 2"**
 Colds, &c. **2 2 2", 1 2 2 1/2" (low pump)**
 In Water Circulating Pump Direct Bilge Suctions, No. and size **1 2 16"** Independent Power Pump Direct Suctions to the Engine Room

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes **yes**
 Are 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**
 Are all Sea Connections fitted direct on the skin of the ship **some on boxes** Are they fitted with Valves or Cocks **yes**
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates **yes** Are the Overboard Discharges above or below the deep water level **below** 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 spring plate **yes** What pipes pass through the bunkers **none** How are they protected **yes**

Are pipes pass through the deep tanks **none** Have they been tested as per rule **yes**
 Are all Pipes, Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times **yes**
 Is the 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 compartment to another **yes** Is the Shaft Tunnel watertight **yes** Is it fitted with a watertight door **yes** worked from **yes**

HEATERS, &c.—(Letter for record **S**) Total Heating Surface of Boilers **10,938 sq. ft. Superheaters 1680 sq. ft.**
 Forced Draft fitted **yes** No. and Description of Boilers **2 B2W Sectional Header** Working Pressure **495 lb. Design 480 sq. ft. 470 Suppl.**
 Report on Main Boilers now forwarded? **yes**



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 011099 / 011099 / 01098

Is ^{a Donkey} Boiler fitted? Yes. Two If so, is a report now forwarded? Yes
 Is the donkey boiler intended to be used for domestic purposes only? No. Cargo pumping & tank heating
 Plans. Are approved plans forwarded herewith for Shafting Yes Main Boilers Sluggo Auxiliary Boilers ✓ Donkey Boilers ✓
 (If not, state date of approval)
 Superheaters Sluggo General Pumping Arrangements Yes Oil Fuel Burning Arrangements Yes
 Geared turbines situated aft. Have torsional vibration characteristics of system been approved? Yes Date of approval 15-3-49

SPARE GEAR.

Has the spare gear required by the Rules been supplied? Yes
 State the principal additional spare gear supplied. Spare screw shaft:

84923T
 LL6705
 B.M.
 12-9-1949
 GP
 23-11-51

The foregoing is a correct description.

GAMMELL LAIRD AND COMPANY
 E Stewart
 ENGINEERING MANUFACTURERS

Dates of Survey while building
 During progress of work in shops - -
 During erection on board vessel - -
 Total No. of visits

Dates of Examination of principal parts—Casings 24-1-51 Rotors 30-2-51 Blading 20-2-51 Gearing 14-3-51

Wheel shaft 13-6-49 Thrust shaft ✓ Intermediate shafts 6-4-51 Tube shaft ✓ Screw shaft 19-11-51

Propeller 16-11-51 Stern tube 16-11-51 Engine and boiler seatings 20-11-51 Engine holding down bolts 22-1-51

Completion of fitting sea connections 30-11-51 Completion of pumping arrangements 14-3-51 Boilers fixed 3-1-51 Engines tried under steam 11-1-51

Main boiler safety valves adjusted 1-3-52 Thickness of adjusting washers 2 1/2" 9/16" Out 1 1/2" In 1 1/2" S. 2 1/2" 3/4" Out 1 1/2"

Rotor shaft, Material and tensile strength Carbon Steel 34-38 7/8" Identification Mark 80904

Flexible Pinion Shaft, Material and tensile strength Steel 35-37 7/8" Identification Mark 81087

Pinion shaft, Material and tensile strength Carbon Steel 40 7/8" Identification Mark 80882

; Chemical analysis ✓

If Pinion Shafts are made of special steel state date of approval of chemical analyses, physical properties and heat treatment ✓

1st Reduction Wheel Shaft, Material and tensile strength Steel 35 7/8" Identification Mark 81095

Wheel shaft, Material Steel Identification Mark 81060 Thrust shaft, Material 7/8" dia 7-9mm Identification Mark ✓

Intermediate shafts, Material Steel Identification Marks 84925 Tube shaft, Material ✓ Identification Marks ✓

Screw shaft, Material Steel Identification Marks 84921 Steam Pipes, Material Steel Test pressure 1000

Date of test 17-1-52 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 the use of oil as fuel been complied with? Yes

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo? Sluggo If so, have the requirements of the Rules been complied with? ✓

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with ✓

Is this machinery a duplicate of a previous case? Yes If so, state name of vessel General San Martin

General Remarks. (State quality of workmanship, opinions as to class, &c.) This machinery has been constructed in accordance with the approved Plans, the Society's Rules and the Secretary's letters. The materials and workmanship are good. It has been properly installed in the vessel, and tried under full working conditions with satisfactory results. It is eligible, in my opinion, to be classed with the record of LMC 3.52. C.L. fitted for oil fuel 3.52 flash point above 150°F.

* Part has been paid by agreement with builder.

The amount of Entry Fee	£	✓	When applied for.
Special	£	345	16 APR 1952
Donkey Boiler Fee	£	52	
Travelling Expenses (if any)	£	73 7/5	When received.
	£	376 11	

Committee's Minute LIVERPOOL 16 APR 1952

Assigned + LMC 3.52 C.L. B

Engineer Surveyor to Lloyd's Register of Shipping.
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Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)