

# 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  
 Net Horse Power as per Rule Old 1580 New 1360 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
 Vessel is intended for 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 phase periods per second rated Kilowatts Volts at revolutions per minute;  
 supplying power for driving Propelling Motors, Type  
 Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE	H. P.	I. P.	L. P.	ASTERN.
ADING.				
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	✓

MAX. SERVICE  
 H.P. 3600, 3530  
 I.P. 3200, 2670  
 L.P. 3200, 2670  
 Horse Power at each turbine  
 H.P. 4 1/2  
 I.P. 4 1/2  
 L.P. 7  
 Shaft diameter at journals  
 H.P. 4 1/2  
 I.P. 4 1/2  
 L.P. 7  
 Pitch Circle Diameter  
 1st pinion 8.57.14.78  
 2nd pinion 17.29  
 1st reduction wheel 55.0608  
 main wheel 140.068  
 1st pinion 8 1/4  
 2nd pinion 14 3/4  
 1st reduction wheel 19.3.9ap  
 main wheel 38.3.9ap  
 1st reduction wheel 8 3/4  
 main wheel 1.7.4

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings  
 1st pinion 8 1/4  
 2nd pinion 14 3/4  
 1st reduction wheel 19.3.9ap  
 main wheel 38.3.9ap  
 1st reduction wheel 8 3/4  
 main wheel 1.7.4

Pinion Shafts, diameter at bearings  
 1st 7 1/2  
 2nd 6 1/4  
 Pinion Shafts, diameter at bearings  
 1st 7 1/2  
 2nd 6 1/4  
 Pinion Shafts, diameter at bearings  
 1st 7 1/2  
 2nd 6 1/4  
 Pinion Shafts, diameter at bearings  
 1st 7 1/2  
 2nd 6 1/4

Intermediate Shafts, diameter  
 as per rule 15.85  
 as fitted 16  
 Thrust Shaft, diameter at collars  
 as per rule 17.085  
 as fitted 17 3/4  
 Is the tube shaft fitted with a continuous liner Yes  
 Is the after end of the liner made watertight in the

bell boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner  
 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  
 no liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after end of the tube  
 to If so, state type 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 L.P. Turbines exhaust direct to the  
 denser 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 2 150 T/H, 1 300 T/H  
 How driven Elec. Motor  
 Lubricating Oil Pumps, including Spare Pump, No. and size 2 11500 7/8 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 1 2 2"

Holds, &c. 2 2 2", 1 2 2 1/2" (Bilge pump)  
 Water Circulating Pump Direct Bilge Suctions, No. and size 1 2 16" Independent Power Pump Direct Suctions to the Engine Room  
 es, No. and size 1 2 1", 1 2 6", 1 2 4" 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 Sea Connections fitted direct on the skin of the ship some on boxes Are they fitted with Valves or Cocks Yes  
 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  
 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 one How are they protected  
 at pipes pass through the deep tanks one Have they been tested as per rule  
 all Pipes, Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

he 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  
 es, or from one compartment to another Yes Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from  
 LERS, &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 485 lb. Design 495 lb. S.S. 470 Suppl.

Report on Main Boilers now forwarded? Yes



Is ~~a Donkey~~ <sup>a Donkey</sup> 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 Plans Auxiliary Boilers ✓ Donkey Boilers ✓  
(If not, state date of approval)  
Superheaters Plans 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.H.  
12-9-1949  
G.P.  
23-11-51

The foregoing is a correct description.

DANIEL LAIRD AND COMPANY

E. Stewart  
ENGINEERING MANAGER

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 14-3-51  
Main boiler safety valves adjusted 1-3-52 Thickness of adjusting washers 2 1/2" 4 1/2" 1 1/2" 1 1/2" 5 1/2" 3 1/2" 4 1/2" 1 1/2"  
Rotor shaft, Material and tensile strength Carbon Steel 34-38 T/10" Identification Mark 80904  
Flexible Pinion Shaft, Material and tensile strength Steel 35-37 T/10" Identification Mark 81087  
Pinion shaft, Material and tensile strength Carbon Steel 40 T/10" 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 T/10" Identification Mark 81095  
Wheel shaft, Material Steel Identification Mark 81060 Thrust shaft, Material 70% end of gear Identification Mark ✓  
Intermediate shafts, Material Steel Identification Marks 84925 84926 84927 Tube shaft, Material ✓ Identification Marks ✓  
Screw shaft, Material Steel Identification Marks 84928 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 no 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 British Rules and the Secretary's letter. 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 second of LMC 3.52. Fitted for oil fuel 3.52 flash point above 150°F.

Certificate (if required) to be sent to

\* paid here by applicant with bill  
The amount of Entry Fee ... £ 345 : 52 : 0 When applied for 16 APR 1952  
Special Donkey Boiler Fee ... £ 73 : 7 : 5 When received  
S.W. 9000 Case  
Travelling Expenses (if any) £ 376 : 11 : 0

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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