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# Report on Steam/Turbine Machinery.

No. 121769

Date of writing Report 3 Feb 1951 When handed in at Local Office 3 Feb 1951 Port of LONDON  
No. in Survey held at PETERBOROUGH Date, First Survey 5 Sept 1950 Last Survey 9 JANUARY 1951  
Reg. Book (Number of Visits Nine)  
on the Single Screw Tug "General Piquet" Tons (Gross 12741 Net 7396)  
Built at LIVERPOOL By whom built CAMMELL LAIRD & CO. LTD. Yard No. 1204 When built 12/50  
Engines made at PETERBOROUGH By whom made PETER BROTHERHOOD LTD. Engine No. 13288C When made 1/51  
Boilers made at By whom made Boiler No. When made  
Shaft Horse Power at Full Power EACH 250 H.P. (335 S.H.P.) Owners Yarmouth Petroleum Finales Port belonging to Bureau Lines  
Nom. Horse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes. Is Electric Light fitted  
Trade for which Vessel is intended

STEAM TURBINE ENGINES, &c.—Description of Engines 15" 7 STAGE CURTIS & 6 RATEAU IMPULSE TYPE.  
No. of Turbines Ahead ONE Direct coupled, single reduction geared } to propelling shafts. No. of primary pinions to each set of reduction gearing ONE.  
Astern double reduction geared }  
direct coupled to { Alternating Current Generator phase periods per second } rated 250 Kilowatts 220 Volts at 1200 revolutions per minute;  
for supplying power for driving Propelling Motors, Type Direct Current Generator  
rated Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE BLADING.	H. P.			I. P.			L. P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1st Expansion	1.62"	15.495"	ONE									
2nd "	1.65"	16.165"										
3rd "	1.65"	16.165"	ONE									
4th "	1.05"	16.05"	"									
5th "	1.15"	16.15"	"									
6th "	1.3"	16.3"	"									
7th "	2.09"	17.09"	"									
8th "	2.93"	18.63"	"									
9th "												
10th "												
11th "												
12th "												

Shaft Horse Power at each turbine { H.P. 250 H.P. ✓ I.P. ✓ L.P. ✓ } Revolutions per minute, at full power, of each Turbine Shaft { H.P. 7500 ✓ I.P. ✓ L.P. ✓ } 1st reduction wheel 1200 main shaft  
Rotor Shaft diameter at journals { H.P. 2 5/8" ✓ I.P. ✓ L.P. ✓ } Pitch Circle Diameter { 1st pinion 3.83676" ✓ 1st reduction wheel 24.1574" ✓ } Width of Face { 1st reduction wheel main wheel  
Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 6 3/4" ✓ 1st reduction wheel 7 1/2" ✓ }  
Flexible Pinion Shafts, diameter { 1st 3 1/2" ✓ 2nd 4 1/2" ✓ } Pinion Shafts, diameter at bearings { External 1st 4 1/8" ✓ 2nd 3" ✓ } diameter at bottom of pinion teeth { 1st 3.61416" ✓ 2nd  
Wheel Shafts, diameter at bearings { 1st 24.374" ✓ 2nd 22.1" ✓ } Generator Shaft, diameter at bearings  
Intermediate Shafts, diameter { as per rule as fitted } Thrust Shaft, diameter at collars { as per rule as fitted }  
Tube Shaft, diameter { as per rule as fitted } Screw Shaft, diameter { as per rule as fitted } Is the { tube screw } shaft fitted with a continuous liner {  
Bronze Liners, thickness in way of bushes { as per rule as fitted } Thickness between bushes { as per rule as fitted } Is the after end of the liner made watertight in the  
propeller boss. If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner.  
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. Is an approved Oil Gland or other appliance fitted at the after end of the tube  
shaft. If so, state type. Length of Bearing in Stern Bush next to and supporting propeller.  
Propeller, diameter Pitch No. of Bades State whether Moveable Total Developed Surface square feet.  
If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Can the H.P. or I.P. Turbines exhaust direct to the  
Condenser No. of Turbines fitted with astern wheels Feed Pumps { No. and size How driven }

Pumps connected to the Main Bilge Line { No. and size How driven } Lubricating Oil Pumps, including Spare Pump, No. and size 16 64 GPM 35 HP 2" PC.  
Ballast Pumps, No. and size Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected both to Main Bilge Pumps and Auxiliary  
Bilge Pumps, No. and size:—In Engine and Boiler Room In Pump Room  
In Holds, &c. Independent Power Pump Direct Suctions to the Engine Room  
Main Water Circulating Pump Direct Bilge Suctions, No. and size Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes.  
Bilges, No. and size 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.  
Are all Sea Connections fitted direct on the skin of the ship. Are they fitted with Valves or Cocks.  
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates. Are the Overboard Discharges above or below the deep water  
line. Are they each fitted with a Discharge Valve always accessible on the plating of the vessel. Are the Blow Off Cocks fitted with a spigot and brass  
covering plate. What pipes pass through the bunkers. How are they protected.  
What pipes pass through the deep tanks. Have they been tested as per rule.  
Are all Pipes, Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times.  
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. Is the Shaft Tunnel watertight. Is it fitted with a watertight door. worked from

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BOILERS, &c.—(Letter for record.....) Total Heating Surface of Boilers.....

Is Forced Draft fitted..... No. and Description of Boilers..... Working Pressure.....

Is a Report on Main Boilers now forwarded?.....

Is { a Donkey } Boiler fitted?..... If so, is a report now forwarded?.....  
{ an Auxiliary }

Is the donkey boiler intended to be used for domestic purposes only.....

Plans. Are approved plans forwarded herewith for Shafting..... Main Boilers..... Auxiliary Boilers..... Donkey Boilers.....  
(If not, state date of approval)

Superheaters..... General Pumping Arrangements..... Oil Fuel Burning Arrangements.....

### SPARE GEAR.

Has the spare gear required by the Rules been supplied. **YES.**

State the principal additional spare gear supplied. **1 SET GENERATOR BEARINGS. 2 SETS CARBON BRUSHES. 1 LINE BRUSH  
HOLDERS. 1 ARMATURE. 1 SET FIELD COILS. 1 SET INTERPOLE COILS. 1 SET TURBINE BEARINGS.  
1 SET MITCHELL THROTTLE PADS. 1 TV SPINDLE. 1 SET LABIRINTH PACKINGS. 1 GOVERNOR COMPLETE.  
1 EN. SPINDLE SEAT. 1 SET SPRINGS. 1 SET OIL CATCHERS.**

\* **DEPOT SPARES FOR 2 SHIPS.**

The foregoing is a correct description.

PETER H. LLOYD, LL

*J. B. Email*  
Manufacturer.

Dates of Survey while building { During progress of work in shops - - - 5.9.50. 12.12.50. 10.10.50. 5.12.50.  
During erection on board vessel - - - 13.10.50. 19.12.50. 13.10.50. 5.1.51. 9.1.51.  
Total No. of visits **9 (2 ships)**

Dates of Examination of principal parts—Casings **C. 5.9.50. 10.10.50. C. 10.12.50. C. 19.12.50. C. 19.12.50.**  
**C. 13.10.50. D. 13.10.50. Rotors. D. 9.1.51. Blading. D. 9.1.51. Gearing. D. 9.1.51.**

Wheel shaft **D. 9.1.51.** Thrust shaft..... Intermediate shafts..... Tube shaft..... Screw shaft.....

Propeller..... Stern tube..... Engine and boiler seatings..... Engine holding down bolts.....

Completion of fitting sea connections..... Completion of pumping arrangements..... Boilers fixed..... Engines tried under steam.....

Main boiler safety valves adjusted..... Thickness of adjusting washers.....

Rotor shaft, Material and tensile strength **C. FORGED STEEL. 47.5. 53.8. 50.8.** Identification Mark **S. 5172. S. 5659.**

Flexible Pinion Shaft, Material and tensile strength..... Identification Mark.....

Pinion shaft, Material and tensile strength **C. FORGED STEEL. 47.5. 50.8. 48.0.** Identification Mark **EB. 1660. EB. 1607.**

1st Reduction Wheel Shaft, Material and tensile strength **C. FORGED STEEL. 47.5. 56.0. 36.0.** Identification Mark **EB. 1585. EB. 1587.**

Wheel shaft, Material..... Identification Mark..... Thrust shaft, Material..... Identification Mark.....

Intermediate shafts, Material..... Identification Marks..... Tube shaft, Material..... Identification Marks.....

Screw shaft, Material..... Identification Marks..... Steam Pipes, Material..... Test pressure.....

Date of test **C. 12.12.50. D. 5.1.51.** Is an installation fitted for burning oil fuel.....

Is the flash point of the oil to be used over 150°F..... Have the requirements of the Rules for the use of oil as fuel been complied with.....

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo..... 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 Remarks. (State quality of workmanship, opinions as to class, &c.) **These two Turbo Generating Engines have been built under survey in accordance with approved plans and the requirements of the Rules. Steel used in manufacture has been made at Works approved by the Committee and under the supervision of the Society's Surveyors. The workmanship is satisfactory and the Engines are, in my opinion eligible to be installed in a vessel Classed with the Society. Satisfactory running tests and governor trials were witnessed at the makers Works of both Engines coupled to their Generators. Engine No. 13288C is coupled to Generator No. A1772. Sunderland Forge & Eng. Co. Ltd.**

The amount of Entry Fee ... £ : : When applied for **5 Feb 1951**  
Special ... £ **12.8.0**  
Donkey Boiler Fee ... £ : : When received  
Travelling Expenses (if any) £ **5.5.0** 19

Committee's Minute **LIVERPOOL 5 JUN 1951**

Assigned.....

*See Liverpool Arch Rps*

**NO.**

*J. B. Email*  
Engineer Surveyor to Lloyd's Register of Shipping.

*These sets have been properly installed in the vessel and tried under working conditions with satisfactory results.*

Lloyd's Register  
Foundation