

REPORT ON STEAM TURBINE MACHINERY. No. 87354

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Date of writing Report 19 When handed in at Local Office 11/11/31 Port of WallSEND - on. Type. Date, First Survey 11 Nov 130 Last Survey 8 July 1031
No. in Survey held at Reg. Book. on the Low Pressure turbine for the S.S. San Bolivar (Number of Visits) Tons } Gross 9320 Net 5718
Built at WallSEND. By whom built Swan Hunter W.R. Ltd. Yard No. 1465 When built 1931
Engines made at WallSEND. By whom made WallSEND Shipways & Co Ltd Engine No. B.W.15+906 When made 1931
Boilers made at WallSEND. By whom made WallSEND Shipways & Co Ltd. Boiler No. 906 When made 1931
Shaft Horse Power at Full Power 1130 Owners Port belonging to
Nom. Horse Power as per Rule 413 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes
Trade for which Vessel is intended Carrying petroleum in bulk.

STEAM TURBINE ENGINES, &c.—Description of Engines Low Pressure turbine with double reduction gearing coupled to main shaft by hydraulic clutch.
No. of Turbines Ahead one Direct coupled, single reduction geared to one propelling shaft. No. of primary pinions to each set of reduction gearing ✓
Astern double reduction geared
direct coupled to Alternating Current Generator ✓ phase periods per second rated ✓ Kilowatts ✓ Volts at ✓ revolutions per minute;
for supplying power for driving Propelling Motors, Type ✓
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							84 M	918 M	1			
2ND							101 "	962 "	1			
3RD							118 "	986 "	1			
4TH							135 "	1020 "	1			
5TH							152 "	1054 "	1			
6TH							176 "	1102 "	1			
7TH							200 "	1150 "	1			
8TH												
9TH												
10TH												
11TH												
12TH												

Shaft Horse Power at each turbine { H.P. ✓ I.P. ✓ L.P. 1130 } Revolutions per minute, at full power, of each Turbine Shaft { H.P. ✓ I.P. ✓ L.P. 3520 }
Rotor Shaft diameter at journals { H.P. ✓ I.P. ✓ L.P. 170 M } Pitch Circle Diameter { 1st pinion 200.9322 1st reduction wheel 1726.9308 M } Width of Face { 1st reduction wheel 310 M }
Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 115 M } 1st reduction wheel 1726.9308 M } main wheel 640 M }
Flexible Pinion Shafts, diameter { 1st 115 M } Pinion Shafts, diameter at bearings External 1st 160 M 2nd 315 M } diameter at bottom of pinion teeth { 1st 186.356 2nd 392.719 M }
Wheel Shafts, diameter at bearings { 1st 280 M } diameter at wheel shroud, { 1st 1600 M } Generator Shaft, diameter at bearings ✓
Intermediate Shafts, diameter as per rule 14.625 " as fitted 18 5/8 " Thrust Shaft, diameter at collars as per rule 15.356 " as fitted 16 " Tube Shaft, diameter as per rule 14.98 " as fitted 14 1/8 "
Screw Shaft, diameter as per rule 16.29 " as fitted 18 1/2 " Is the screw shaft fitted with a continuous liner yes. Bronze Liners, thickness in way of bushes as per rule 14.98 " as fitted 14 1/8 "
Thickness between bushes as per rule 25.52 " as fitted 25 1/2 " 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 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 No Length of Bearing in Stern Bush next to and supporting propeller 6-5 "

Propeller, diameter 20'-0" Pitch 17-6 mean No. of Blades 4 State whether Moveable yes Total Developed Surface 120 square feet.
If Single Screw, are arrangements made so that MAIN ENGINE EXHAUST can be led direct to the condenser yes. Can the H.P. or L.P. Turbine exhaust direct to the condenser ✓
Condenser ✓ No. of Turbines fitted with astern wheels ✓ Feed Pumps { No. and size ✓ How driven SEE ATTACHED REPORT.

Pumps connected to the Main Bilge Line { No. and size ✓ How driven ✓

Ballast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size 2 @ 9 x 8 x 18
Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room
In Holds, &c.

Main Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room

Bilges, No. and size Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

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

