

Rpt. 4a.

# REPORT ON STEAM TURBINE MACHINERY. No. 101840

Date of writing Report 28 JAN 1944 When handed in at Local Office 28 JAN 1944 Port of NEWCASTLE ON TYNE Received at London Office 28 FEB 1944

No. in Survey held at Newcastle on Tyne Date, First Survey 26 May 1942 Last Survey 24 January 1944  
Reg. Book. on the Twin Sc. "UMTATA" (Number of Visits 1)

Built at Newcastle By whom built Sewan, Hunter & Wigham Richardson & Co Yard No. 1740 Tons 7288 Gross 3799 Net  
Engines made at do By whom made do Recip Engine No. 1740 When built 1944-1  
Boilers made at do By whom made do Exh. Steam Turb. No. 1740 When made "  
Shaft Horse Power at Full Power 2700 Owners Bullard, King & Co Ltd Port belonging to LONDON  
Nom. Horse Power as per Rule 1145 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes  
Trade for which Vessel is intended open sea

STEAM TURBINE ENGINES, &c.—Description of Engines Bauer-Wach Exh. Steam Turbines  
No. of Turbines Ahead 2 Direct coupled, single reduction geared } to 2 propelling shafts. No. of primary pinions to each set of reduction gearing one  
Astern two 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							64. m.m.	878. m.m.	1			
2ND "							84. "	918. "	1			
3RD "							104. "	958. "	1			
4TH "							124. "	998. "	1			
5TH "							144. "	1038. "	1			
6TH "							173. "	1096. "	1			
7TH "							200. "	1150. "	1			
8TH "												
9TH "												
10TH "												
11TH "												
12TH "												

Shaft Horse Power at each turbine { H.P. ✓ I.P. ✓ L.P. 1350. } Revolutions per minute, at full power, of each Turbine Shaft { H.P. ✓ I.P. ✓ L.P. 3505. } 1st reduction wheel 674. main shaft 119.

Rotor Shaft diameter at journals { H.P. ✓ I.P. ✓ L.P. 170 m.m. } Pitch Circle Diameter { 1st pinion 271.528 1st reduction wheel 1411.946 2nd pinion 359.037 main wheel 1977.968 } Width of Face { 1st reduction wheel 250 m.m. main wheel 560 m.m.

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 260 m.m. 2nd pinion 422.5 } 1st reduction wheel 1555 m.m. main wheel 525 m.m.

Flexible Pinion Shafts, diameter { 1st 115 m.m. 2nd ✓ } Pinion Shafts, diameter at bearings { External 1st 125 m.m. 2nd 320 m.m. Internal 1st ✓ 2nd 250. } diameter at bottom of pinion teeth { 1st 256.88 m.m. 2nd 337.49

Wheel Shafts, diameter at bearings { 1st 230 m.m. 2nd 250 m.m. } diameter at wheel shroud, { 1st 1342 m.m. 2nd 1880 m.m. } Generator Shaft, diameter at bearings ✓ Propelling Motor 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 ✓ 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 Blades ✓ 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. Turbine 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 ✓

Ballast Pumps, No. and size ✓ Lubricating Oil Pumps, including Spare Pump, No. and size ✓  
Are two independent means arranged for circulating water through the Oil Cooler ✓ Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room ✓ In Pump 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 sized 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 ✓

See RECIP. MAIN ENGINE

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