

## REPORT ON STEAM TURBINE MACHINERY.

25. 10. 7. 1936

Received at London Office

Date of writing Report 19 When handed in at Local Office 24. 11. 1936 Port of Glasgow  
No. in Survey held at Glasgow Date, First Survey 12th June 1936 Last Survey 9th Nov 1936  
Reg. Book. on the Greenock Dockyard Co. Ltd. No. 426. S/S. Claus Bauer Co. (Number of Visits 18)  
Built at Greenock By whom built Greenock Dry Dock Co. Ltd. Yard No. 426 When built 1937  
Engines made at Glasgow By whom made Barclay Currie & Co. Ltd. Engine No. BW 44 When made 1936  
Boilers made at S.H.P. = 2404 By whom made Boiler No. When made  
Ind. Horse Power at Full Power 2640 Owners Claus Bauer & Co. Ltd. Port belonging to Glasgow  
Nom. Horse Power as per Rule 433 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted  
Trade for which Vessel is intended 701.

## STEAM TURBINE ENGINES, &amp;c.—Description of Engines

Two L.P. turbines with D.R. gearing &amp; hydraulic couplings

No. of Turbines Ahead 2 Direct coupled, single reduction geared } to 2 propelling shafts. No. of primary pinions to each set of reduction gearing 1.  
Astern 1 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							3 1/4"	35 1/2"				
2ND							3 1/2"	34 1/2"				
3RD							4 3/4"	35 1/2"				
4TH							5 1/2"	40 1/2"				
5TH							6 1/4"	41 1/2"				
6TH							6 3/4"	43 1/4"				
7TH							7 1/8"	45 1/2"				
8TH												
9TH												
10TH												
11TH												
12TH												

Ind. Horse Power at each turbine { H.P. — I.P. — L.P. 1335 each }  
Revolutions per minute, at full power, of each Turbine Shaft { H.P. — I.P. — L.P. 3320 }  
1st reduction wheel 457  
main shaft 92

Rotor Shaft diameter at journals { H.P. — I.P. — L.P. 6.64" }  
Pitch Circle Diameter { 1st pinion 8.784" 1st reduction wheel 63.8446" 1st reduction wheel 11.0338"  
2nd pinion 19.1397" main wheel 91.1279" main wheel 25.197"

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 24.016" 1st reduction wheel 85.238"  
2nd pinion 34.009" main wheel 45.67"

Flexible Pinion Shafts, diameter { 1st — 2nd — }  
Pinion Shafts, diameter at bearings { External 1st 6.29" 2nd 14.96" diameter at bottom of pinion teeth { 1st 8.207"  
Internal 1st — 2nd — } 2nd 18.367"

Wheel Shafts, diameter at bearings { 1st 11.02" 2nd 34.64" }  
diameter at wheel shroud, { 1st 60.78" 2nd 86.81" }  
Generator Shaft, diameter at bearings —  
Propelling Motor Shaft, diameter at bearings —

Intermediate Shafts, diameter { as per rule 13.824" as fitted 15" }  
Thrust Shaft, diameter at collars { as per rule 14.518" as fitted 15" }  
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 { — }  
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 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

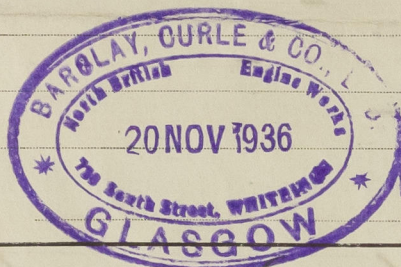
What pipes pass through the bunkers How are they protected  
What pipes pass through the deep tanks Have they been tested as per rule

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 worked from



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 }  
Plans. Are approved plans forwarded herewith for Shafting *Ys.* Main Boilers Auxiliary Boilers Donkey Boilers  
(If not state date of approval)  
Superheaters General Pumping Arrangements Oil Fuel Burning Arrangements  
Spare Gear. State the articles supplied:— *As per attached List.*



The foregoing is a correct description,

FOR BARCLAY, CURLE & CO., LTD. *Alexander Macneill* Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1936 June: 12 26 July: 29 31 Aug: 13 19 21 Sep: 14 18 24 29 *Chief Draughtsman*  
{ During erection on board vessel - - - } Oct: 9 13 14 23 27 Nov: 9  
Total No. of visits 18  
Dates of Examination of principal parts—Casings 18.9.36 Rotors 21.8.36 Blading 18.9.36 Gearing 29.9.36  
Wheel shaft 31.7.36 Thrust shaft 24.10.36 Intermediate shafts Tube shaft Screw shaft  
Propeller Stern tube Engine and boiler seatings Engine holding down bolts  
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 *S.M. Eng. Steel 34.4 - 37.0 Tons* Identification Mark *508+509-HA1-26*  
Flexible Pinion Shaft, Material and tensile strength — Identification Mark  
Pinion shaft, Material and tensile strength *S.M. Eng. Steel 44.0 - 46.2 Tons* Identification Mark *504, 505, 506, 507, HA1*  
1st Reduction Wheel Shaft, Material and tensile strength *do 30.2 - 30.8 Tons* Identification Mark *502+503-HA1-26*  
Wheel shaft, Material *S.M. Eng. Steel* Identification Mark *500+501-HA2-26* Thrust shaft, Material *S.M. Eng. Steel* Identification Mark *498+499-HA1*  
Intermediate shafts, Material Identification Marks Tube shaft, Material Identification Marks  
Screw shaft, Material Identification Marks Steam Pipes, Material Test pressure  
Date of test 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 carrying and burning oil fuel been complied with  
Is this machinery a duplicate of a previous case If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)

*This machinery has been built under special Survey and in accordance with the Rules. The materials and workmanship are good. It has been shipped to Greenock for fitting on board.*

*28/11/36*

*See also Certificate fitted on board, tried under working conditions & found satisfactory. J. Gordon Macneill Greenock*

The amount of Entry Fee ... £ : : When applied for,  
Special ... £ 43 6 : : 19  
Donkey Boiler Fee ... £ : : When received,  
Travelling Expenses (if any) £ : : 1st JANUARY 1937

*John Gordon Macneill*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 24 NOV 1936

GLASGOW 9-FEB 1937

Assigned

*Deferred.*

*Mc*

*See Enk. Rpt. No. 20312*

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