

REPORT ON STEAM TURBINE MACHINERY.

No. 93942 -8 JUL 1936

pt. 4a.

Received at London Office

Date of writing Report 27.10.36 Port of NEWCASTLE-ON-TYNE
No. in Survey held at Newcastle on Tyne Date, First Survey 31 Aug 135 Last Survey 1st July 1936
Reg. Book. on the Steel Tonnage "UMTALI"
Built at Newcastle on Tyne (Walker) By whom built S.H.W.R.L.S. Yard No. 1492 When built 1936
Engines made at do By whom made S.H.W.R.L.S. Engine No. 1492 When made 1936
Boilers made at do By whom made S.H.W.R.L.S. Boiler No. 1492 When made 1936
Shaft Horse Power at Full Power 6668 Owners Bullard King & Co Ld Port belonging to LONDON
Nom. Horse Power as per Rule 1118 Is Refrigerating Machinery fitted for cargo purposes Y Is Electric Light fitted Y
Trade for which Vessel is intended U.K. - SOUTH AFRICA.

STEAM TURBINE ENGINES, &c. - Description of Engines TWO-L.P. EXH. STEAM BAUER-WACH 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 - double reduction geared
direct coupled to Alternating Current Generator phase periods per second Direct Current Generator 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.

Table with columns: TURBINE BLADING, H.P., I.P., L.P., ASTERN. Rows include 1st to 12th expansion stages with details on height of blades, diameter at tip, and number of rows.

Shaft Horse Power at each turbine: H.P. 1174, I.P. 3780, L.P. 771.
Rotor Shaft diameter at journals: H.P. 125, I.P. 271.5281, L.P. 1330.4577.
Distance between centres of pinion and wheel faces and the centre of the adjacent bearings: 1st pinion 242.5, 2nd pinion 390, main wheel 480.
Flexible Pinion Shafts, diameter: 1st 115, 2nd 280.
Wheel Shafts, diameter at bearings: 1st 190, 2nd 220, main 440.
Generator Shaft, diameter at bearings: 1260.
Propelling Motor Shaft, diameter at bearings: 1820.

Intermediate Shafts, diameter as per rule. Thrust Shaft, diameter at collars as fitted.
Tube Shaft, diameter as per rule. Screw Shaft, diameter as fitted.
Bronze Liners, thickness in way of bushes as per rule. Thickness between bushes as fitted.
Propeller, diameter, Pitch, No. of Blades, State whether reversible, Total Developed Surface square feet.
If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine.
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.
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  an Auxiliary Boiler fitted? If so, is a report now forwarded?

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

Superheaters  General Pumping Arrangements  Oil Fuel Burning Arrangements

Has the spare gear required by the Rules been supplied  **SPARE GEAR.**

State the principal additional spare gear supplied **See Attached List.**

The foregoing is a correct description,

FOR SWAN, HUNTER & WIGGLESWORTH, LTD.

*G.F. Jueidy* Manufacturer.

Dates of Survey while building  
 During progress of work in shops --  
 During erection on board vessel ---  
 Total No. of visits

**Included in Recip. Machy Rpt.**

Dates of Examination of principal parts—Casings <sup>5/2/36</sup> 5/2/36 Rotors <sup>5/2/36</sup> 5/2/36 Blading <sup>26/2/36</sup> 26/2/36 Gearing <sup>4/2/36</sup> 4/2/36

Wheel shaft <sup>4/2/36</sup> 4/2/36 Thrust shaft <sup>4/2/36</sup> 4/2/36 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 fired  **LPTURBINES** tried under steam <sup>5/21/36</sup> 5/21/36  
 Main boiler safety valves adjusted  Thickness of adjusting washers  **in SHDP** <sup>P 26/2/36</sup> P 26/2/36

Rotor shaft, Material and tensile strength **S.M. Steel 42 & 43 tons / sq in** (Yield Point 22 & 22.5 tons / sq in) Identification Mark **146 HMC. S.W.**  
 1st Red. Flex. Transmission Shaft **S.M. Steel P.T.S. 32 tons / sq in** Identifn mark **AW. 4-2-36**

1st Redn Pinion Shaft, Material and tensile strength **Nickel Steel P.T.S. 45 tons** Identification Mark **254.S.W.**  
 2nd Redn Pinion shaft, Material and tensile strength **Nickel Steel P. 46T. : 5 44.5T / sq in** Identification Mark **574.WK.**

1st Reduction Wheel Shaft, Material and tensile strength **S.M. Steel P.T.S. 31 tons / sq in** Identification Mark **(P1006G.TC) S. 601.WK.**  
 Wheel shaft, Material **S.M. Steel** Identification Mark **8135.J.D.** Thrust shaft, Material **S.M. Steel** Identification Mark **P.T.S. 8066 J.D.**

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 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 **UMTATA, NWC. Rpt.**

General Remarks (State quality of workmanship, opinions as to class, &c.)  
**The machinery has been built under special survey in accordance with the Rules, satisfactorily installed and tried under steam under full working conditions. The materials & workmanship are good.**

The amount of Entry Fee ... £	When applied for,
Special ... £	19
Donkey Boiler Fee ... £	When received,
Travelling Expenses (if any) £	19

*A. Watt*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 10 JUL 1936

Assigned

*See Mr Swa J.C.*  
**93942**



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Certificate (if required) to be sent to NEWCASTLE-ON-TYNE