

REPORT ON STEAM TURBINE MACHINERY. No. 98639

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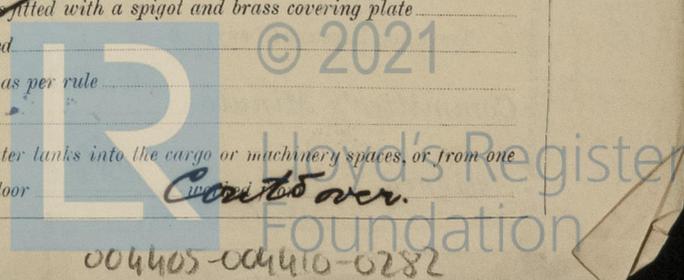
Writing Report 10 When handed in at Local Office 10/7/40 Port of **NEWCASTLE-ON-TYNE**
 Survey held at **Newcastle on Tyne** Date, First Survey **14 Dec/1939** Last Survey **25/6/1940**
 Book. **S.S. Ismaila** (Number of Visits **19**)
 on the **W. Hartlepool** By whom built **Wm Gray & Co** Yard No. **1105** When built
 es made at **do** By whom made **Central Marine Eng. Wks** Engine No. **1105** When made
 BINE s made at **Newcastle on Tyne** By whom made **Swan, Hunter & Wigham Richardson & Co.** L.P. TURBINE No. **1642** When made **1940-6**
 Horse Power at Full Power **1165** Owners Port belonging to
 Horse Power as per Rule **194** Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
 for which Vessel is intended **Ocean going**

STEAM TURBINE ENGINES, &c.—Description of Engines **LP Exh. Steam Turbine with D/P Gearing & Hydr. Coupling**
 Turbines Ahead **One** Direct coupled, single reduction geared } to **One** propelling shaft. No. of primary pinions to each set of reduction gearing **One**
 Astern **—** double reduction geared }
 coupled to Alternating Current Generator **—** phase **—** periods per second } rated **—** Kilowatts **—** Volts at **—** revolutions per minute;
 Direct Current Generator }
 driving power for driving **—** Propelling Motors, Type **—**
— Kilowatts **—** Volts at **—** revolutions per minute. Direct coupled, single or double reduction geared to **—** propelling shafts.

LINE	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.
EXPANSION							61 MM	822 MM	One			
"							79	858	One			
"							97	894	One			
"							115	930	One			
"							137	974	One			
"							160	1020	One			
"							185	1070	One			

Horse Power at each turbine **EXH. STM.** H.P. **—** I.P. **—** L.P. **1165** 1st reduction wheel **466**
 Shaft diameter at journals H.P. **—** I.P. **—** L.P. **170 M.M.** Pitch Circle Diameter 1st pinion **206.3614 M.M.** 1st reduction wheel **1629.1687 M.M.** Width of Face main wheel **580 M.M.**
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion **255 M.M.** 1st reduction wheel **370 M.M.** 2nd pinion **440 M.M.** main wheel **550 M.M.**
 Pinion Shafts, diameter at bearings External 1st **150 M.M.** 2nd **350 M.M.** diameter at bottom of pinion teeth 1st **191.716 M.M.** 2nd **357.0769 M.M.**
 Shafts, diameter at bearings main **500 M.M.** diameter at wheel shroud, main **2015 M.M.** Generator Shaft, diameter at bearings **—**
 Intermediate Shafts, diameter as per rule **13.59** "with Recip. & LP Turb. Thrust Shaft, diameter at collars as per rule **13.65**"
 Shaft, diameter as fitted **—** Screw Shaft, diameter as fitted **—** Is the tube screw shaft fitted with a continuous liner **—**
 Liners, thickness in way of bushes as per rule **—** Thickness between bushes as per rule **—** Is the after end of the liner made watertight in the boss **—**
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner **—**
 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 **—**
 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 **—**
 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.
 The Screw are arrangements made so that steam can be led direct to the L.P. Turbine **—** Can the H.P. or L.P. Turbine exhaust direct to the sea **—**
 No. of Turbines fitted with astern wheels **—** Feed Pumps No. and size **—** How driven **—**

connected to the Main Bilge Line No. and size **—** How driven **—**
 Bilge Pumps, No. and size **—** Lubricating Oil Pumps, including Spare Pump, No. and size **—**
 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 **—**
 Water Circulating Pump Direct Bilge Suctions, No. and size **—** Independent Power Pump Direct Suctions to the Engine Room **—**
 No. and size **—** Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes **—**
 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 **—**
 Sea Connections fitted direct on the skin of the ship **—** Are they fitted with Valves or Cocks **—**
 fired 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 **—**
 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 **—**
 How are they protected **—**
 How are they protected **—** Have they been tested as per rule **—**
 Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times **—**
 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 **—**



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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?

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

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

Yes viz. 1 Bearing of each size fitted 1 set of Thrust Pads for each Thrust Bearing 1 Spring & 1 set washers for Emergency Governor etc.

SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

G. J. Sweeney

The foregoing is a correct description,

Dates of Survey while building During progress of work in shops - - - During erection on board vessel - - - Total No. of visits 19.

Dates of Examination of principal parts - Casings 7/5/40 Rotors 5/3/40 Blading 26/6/40 Gearing 6/5/40

Wheel shaft 6/5/40 Thrust shaft 6/5/40 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 L.P. TURBINE Engine tried under steam

Main boiler safety valves adjusted Thickness of adjusting washers

Rotor shaft, Material and tensile strength O.H.F. Steel 36.2 tons Identification Mark 8790HAZ.

Flexible Pinion Shaft, Material and tensile strength 7 1/2 Redn. 7 1/2 Redn. Steel 44 tons (Y.P. 31 tons) Identification Mark 8790 HAI.

Pinion shaft, Material and tensile strength 2nd Redn. do. 43.66 tons (Y.P. 30.17 tons) Identification Mark 25/40 4B.

1st Reduction Wheel Shaft, Material and tensile strength O.H.F.S. 29 tons. Identification Mark 8790 HAI.

Wheel shaft, Material O.H.F.S. Identification Mark 8790 HAI. Thrust shaft, Material O.H.F.S. Identification Mark 8790 HAI.

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 Wm Gray's Yard No. 1102 = 5/5 1103 = 5/5

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

This Exh. Steam Turbine & D/K Gearing has been constructed under special survey in accordance with Society's Rules & approved plan, and the materials & workmanship are

The Turbine was satisfactorily tested under steam (no load) in the work

The machinery has been sent to W. Hartlepool for installation

This exhaust turbine installation has now been satisfactorily

fitted on board and tried under working conditions with

satisfactory results Arthur W. Oxford, West Hartlepool.

7/12/40. A Watt Engineer Surveyor to Lloyd's Register of Shipping.

Table with columns for Fee Type (Entry, Special, Donkey Boiler, Travelling Expenses), Amount (£), and Date (When applied for/received).

Committee's Minute

Assigned

FRI. 20 DEC 1940

See Apl. J.C. 18096

