

pt. 4a.

# REPORT ON STEAM TURBINE MACHINERY. No. 105225

Date of writing Report 10 When handed in at Local Office 21 APR 1948 Port of NEWCASTLE-ON-TYNE Received at London Office 30 APR 1948

No. in Survey held at North Shields Date, First Survey 18. 2. 48. Last Survey 12. 4. 1948.

Reg. Book. 36863 on the Turbo-elect. ss. "THELICONUS" (Number of Visits 15)

Gross 10638. Tons Net 6307

Built at Mobile By whom built Alabama D.D. & S.B. Corp. Yard No. 2048. When built 1945

Engines made at Schenectady N.Y. By whom made General Electric Co. Engine Nos. 70660 & 70661 When made 1945

Boilers made at New York By whom made Combustion Eng. Co. Inc. Boiler Nos. 94877 & 94878 When made 1945

Shaft Horse Power at Full Power 1450. Owners Anglo-Saxon Petroleum Co. Ltd. Port belonging to LONDON

Nom. Horse Power as per Rule 4 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted No.

Trade for which Vessel is intended Carrying petroleum in bulk.

## STEAM TURBINE ENGINES, &c.—Description of Engines Two, single reduction geared impulse turbines (Aux.)

No. of Turbines Ahead one Direct coupled, single reduction geared } to propelling shafts. No. of primary pinions to each set of reduction gearing

Astern direct coupled to Alternating Current Generator 3 phase 60 periods per second } rated 400. Kilowatts 450. Volts at 1200 revolutions per minute;

for supplying power for driving Propelling Motors, Type Direct Current Generator

rated Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE	LOADING.	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		15"	25 3/4"	1									
2ND		15"	26"	1									
3RD		15"	25 3/8"	1									
4TH		15 1/2"	26 1/2"	1									
5TH		15 1/2"	25 3/4"	1									
6TH		2 1/2"	26 1/8"	1									
7TH													
8TH													
9TH													
10TH													
11TH													
12TH													

Shaft Horse Power at each turbine { H.P. 750. I.P. " L.P. " } Revolutions per minute, at full power, of each Turbine Shaft { H.P. 5645. I.P. " L.P. " } 1st reduction wheel " main shaft 1,200.

Rotor Shaft diameter at journals { H.P. 2 1/2" I.P. " L.P. " } Pitch Circle Diameter { 1st pinion 5.43" 1st reduction wheel 25.56" 2nd pinion " main wheel " } Width of Face { 1st reduction wheel 8 1/4" main wheel " }

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 6 5/8" 1st reduction wheel 6 5/8" 2nd pinion " main wheel " }

Flexible Pinion Shafts, diameter { 1st " 2nd " } Pinion Shafts, diameter at bearings { External 1st " 2nd " Internal 1st " 2nd " } diameter at bottom of pinion teeth { 1st 5.125" 2nd " }

Wheel Shafts, diameter at bearings { 1st 4" main " } diameter at wheel shroud, { 1st " main " } Generator Shaft, diameter at bearings 4" 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 { 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 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 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

002956-002969-0335



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 ☒  
(If not state date of approval)

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

The foregoing is a correct description,

Manufacturer

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

Dates of Examination of principal parts—Casings Rotors Blading Gearing  
Wheel shaft Thrust shaft 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 Engines tried under steam  
Main boiler safety valves adjusted Thickness of adjusting washers  
Rotor shaft, Material and tensile strength Identification Mark  
Flexible Pinion Shaft, Material and tensile strength Identification Mark  
Pinion shaft, Material and tensile strength Identification Mark  
1st Reduction Wheel Shaft, Material and tensile strength Identification Mark  
Wheel shaft, Material Identification Mark Thrust shaft, Material Identification Mark  
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 ☒ If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) These machines have been constructed under the supervision of the U.S. Coast Guard & the American Bureau of Shipping. The workmanship is good and the materials considered sound. The machines have been examined under working conditions and found satisfactory.

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

*W. L. Allen*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 28 MAY 1948**

Assigned *S. F. E. Moly. apt*