Report on Steam Turbine Machinery. No. 106705

ting Report 27th Oct. 1949. When handed in at Local Office ..... 19 .... Port of ..... Received at London Office 10 NOV 1949

Survey held at South Shields Date, First Survey ..... Last Survey ..... 19 ....

(Number of Visits .....)

on the TURBO ELECTRIC 'ZIETOUN' Tons { Gross 10720 / Net 6370

Mobile, Alabama By whom built Alabama D.D. & S.B. Co. Yard No. ..... When built 1945

made at Lynn By whom made General Electric Co. Engine No. 61852 When made 1945

ade at New York. By whom made Combustion Eng. Co. Boiler Nos P 11595 / 7685 When made 1945

rse Power at Full Power 6600 Owners Baltic Trading Co. Ltd. Port belonging to London

rse Power as per Rule 14856 = MN Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

r which Vessel is intended Carrying Petroleum in Bulk.

TURBINE ENGINES, &c.—Description of Engines 10 stage impulse turbine

urbines { Ahead 1 / Astern ✓ } Direct coupled, single reduction geared, double reduction geared } to ✓ propelling shafts. No. of primary pinions to each set of reduction gearing ✓

pled to { Alternating Current Generator 3 phase 62 periods per second / ~~Direct Current Generator~~ } rated 5400 Kilowatts 2370 Volts at 3715 revolutions per minute;

ying power for driving 1 Propelling Motor 1, Type 3 Phase 62 cycle 80 pole revolving field salient pole. Synchronous

400 Kilowatts 2370 Volts at 93 revolutions per minute. Direct coupled, ~~single or double reduction geared~~ to 1 propelling shaft 1.

E G.	H.P. HEIGHT OF BLADES.	H.P. DIAMETER AT TIP.	H.P. NO. OF ROWS.	I.P. HEIGHT OF BLADES.	I.P. DIAMETER AT TIP.	I.P. NO. OF ROWS.	L.P. HEIGHT OF BLADES.	L.P. DIAMETER AT TIP.	L.P. NO. OF ROWS.	ASTERN. HEIGHT OF BLADES.	ASTERN. DIAMETER AT TIP.	ASTERN. NO. OF ROWS.
pansion	7/8"	2' 9 5/8"	1									
,,	1 1/8"	2' 10"	1									
,,	1"	2' 10"	1									
,,	1 1/4"	2' 10 3/8"	1									
,,	1 5/8"	2' 11 1/4"	1									
,,	15/16"	3' 0 1/2"	1									
,,	1 3/8"	3' 7 3/8"	1									
,,	2 1/16"	3' 8 3/4"	1									
,,	3 3/8"	3' 11 1/4"	1									
,,	5 3/8"	4' 2 3/8"	1									
,,	9	4' 8 3/8"	1									
,,												
,,												

rse Power at each turbine { H.P. 6600 / I.P. ✓ / L.P. ✓ } **Revolutions** per minute, at full power, of each Turbine Shaft { H.P. 3715 / I.P. ✓ / L.P. ✓ } 1st reduction wheel ✓ / main shaft 93 max.

aft diameter at journals { H.P. / I.P. 5" & 10" / L.P. } **Pitch Circle Diameter** { 1st pinion / 1st reduction wheel / 2nd pinion / main wheel } **Width of Face** { 1st reduction wheel / main wheel }

e between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion / 1st reduction wheel / 2nd pinion / main wheel }

Pinion { 1st / 2nd } **Pinion Shafts**, diameter at bearings { External / Internal } 1st { / } 2nd { / } diameter at bottom of pinion teeth 1st / 2nd

hafts, diameter at bearings { 1st / main } diameter at wheel shroud, { 1st / main } **Generator Shaft**, diameter at bearings / **Propelling Motor Shaft**, diameter at bearings 17·25" ✓

diate Shafts, diameter as per rule 16·56" / as fitted 16·875" ✓ **Thrust Shaft**, diameter at collars as per rule 17·39" / as fitted 17·5"

aft, diameter as per rule / as fitted / **Screw Shaft**, diameter as per rule 18·125" / as fitted 18·625" ✓ Is the { ~~tube~~ / screw } shaft fitted with a continuous liner { Yes ✓ }

Liners, thickness in way of bushes as per rule ·858" / as fitted 1·125" Thickness between bushes as per rule ·643" / as fitted 1·062" Is the after end of the liner made watertight in the

boss Yes ✓ If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ✓

er 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 ✓

iners 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

No If so, state type ✓ Length of Bearing in **Stern Bush** next to and supporting propeller 7' 3" ✓

r, diameter 19' 6" Pitch 17' 6" No. of Bades 4 State whether Moveable No Total Developed Surface 138·3 square feet.

Screw, are arrangements made so that steam can be led direct to the **L.P. Turbine** / Can the **H.P.** ~~or I.P.~~ **Turbines** exhaust direct to the

r Yes No. of Turbines fitted with astern wheels None **Feed Pumps** { No. and size 2 - Turbo 200 G.P.M. 1 - 130 G.P.M. / How driven Steam ✓ Steam vertical simplex }

nnected to the **Main Bilge Line** { No. and size 2 - 200 G.P.M. 1 - 450 G.P.M. 1 - 300 G.P.M. Fore pump room. / How driven Electric Electric. Steam vertical duplex. }

Pumps, No. and size 1 - 300 G.P.M. fore pump room **Lubricating Oil Pumps**, including Spare Pump, No. and size ✓ 2 - 60 G.P.M.

Independent means arranged for circulating water through the **Oil Cooler** Yes ✓ **Suctions**, connected both to Main Bilge Pumps and Auxiliary

mps, No. and size:—In Engine and Boiler Room 2-3"dia. ford coffs; 1-3"dia. fathometer temp; 6-3"dia & 1-3½"dia Bilge Pump Room 1-4"dia.

&c. 1-3½"dia. dry well; 1-3½"dia. boiler room drain; 1-3"dia L.O. sump coffs; 1-3"dia propeller motor recess.

ater Circulating Pump Direct Bilge Suctions, No. and size ✓ 1 - 18"dia. **Independent Power Pump Direct Suctions** to the Engine Room

o. and size 2 - 4" ✓ Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes ✓

ilge 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 Yes ✓

ea Connections fitted direct on the skin of the ship Tube steel pieces welded to shell. Are they fitted with Valves or Cocks Valves ✓

fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes ✓ Are the Overboard Discharges above or below the deep water

ad Are they each fitted with a Discharge Valve always accessible on the plating of the vessel ✓ Yes Are the Blow Off Cocks fitted with a spigot and brass

plate Yes What pipes pass through the bunkers None ✓ How are they protected ✓

es pass through the deep tanks None ✓ Have they been tested as per rule ✓

ipes, Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes ✓

angement 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

from one compartment to another Yes ✓ Is the Shaft Tunnel watertight WT bulkhead fitted with a watertight door Yes worked from Platform.

BOILERS, &c.—(Letter for record.....) Total Heating Surface of Boilers.....

Is Forced Draft fitted Yes ✓ No. and Description of Boilers 2 - ✓ S.M. type Working Pressure ✓ 50

Is a Report on Main Boilers now forwarded? ✓

Is { a Donkey / an Auxiliary } Boiler fitted? No ✓ 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 Yes. ✓

State the principal additional spare gear supplied

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

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. Yes ✓ 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 T2 Tankers.

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

The machinery of this vessel has been constructed under the survey of the U.S. Coast Guard and American Bureau of Shipping. Material and workmanship considered. The scantlings and general arrangements have been checked and found in accord with plans on board vessel. Machinery examined under working conditions & found satisfactory, and eligible in my opinion to have records of ✠MC 10, Fitted for oil fuel 1945 F.P. above 150°F

Certificate (if required) to be sent to

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee ... £ : : When applied for.

Special ... ... £ : : ..... 19.....

Donkey Boiler Fee ... £ : : When received.

Travelling Expenses (if any) £ : : ..... 19.....

TUES. 20 DEC 1945

Chas. W. Burk.
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

Assigned See minute on f.c. rpt.