

# Report on Steam Turbine Machinery.

No. 56166

For writing Report 15<sup>th</sup> JULY 1948 When handed in at Local Office 15<sup>th</sup> JULY 1948 Port of CARDIFF Received at London Office 27 JUL 1948  
 Survey held at CARDIFF Date, First Survey 6.5.48 Last Survey 26.6.1948  
 Book 74 on the "TENAGODUS" (Number of Visits 12)  
 Tons (Gross 10636 Net 9489)  
 at MOBILE ALA By whom built ALABAMA D.D. & S.B. CO Yard No. ~ When built 1944  
 Lines made at LYNN, MASS By whom made GENERAL ELECTRIC CO Engine No. ~ When made 1944  
 ers made at ST. LOUIS, MO By whom made COMBUSTION ENGINE CO Boiler No. ~ When made 1944  
 ft Horse Power at Full Power 6000 Owners ANGLO SAXON PETROLEUM CO LTD Port belonging to LONDON  
 n. Horse Power as per Rule 1324 1480 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES  
 de for which Vessel is intended PETROLEUM IN BULK

## AM TURBINE ENGINES, &c.—Description of Engines ONE CURTIS IMPULSE 10 STAGE TURBINE.

Ahead ONE Direct coupled, single reduction geared to propelling shafts. No of primary pinions to gear set of reduction gearing  
 of Turbines Astern ONE Direct coupled, double reduction geared  
 at coupled to Alternating Current Generator 3 phase 62 periods per second rated 5400 Kilowatts 2370 Volts at 3715 revolutions per minute;  
 supplying power for driving ONE Propelling Motor, Type 3 PHASE, 62 CYCLE, 90 POLE, REVOLVING-FIELD, SAUENT POLE, SYNCHRONOUS  
 6000 HP Kilowatts 2300 Volts at 90 revolutions per minute. Direct coupled, single reduction geared to ONE propelling shafts.

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.
7 3/8"	34"	2									
1"	34"	1									
1 1/4"	34 3/8"	1									
1 5/8"	35 1/4"	1									
7 3/8"	42 1/4"	1									
13 3/8"	43 1/2"	1									
2 3/8"	45 1/2"	1									
2 1/2"	47"	1									
6 1/2"	49 1/2"	1									
9"	56"	1									

ft Horse Power at each turbine H.P. 3715 1st reduction wheel  
 Revolutions per minute, at full power, of each Turbine Shaft H.P. 90 main shaft

or Shaft diameter at journals H.P. 5" AFT Pitch Circle Diameter 1st pinion 1st reduction wheel Width of Face 1st reduction wheel  
 H.P. 10" FWD 2nd pinion main wheel 2nd reduction wheel

ance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 1st reduction wheel  
 2nd pinion main wheel 2nd reduction wheel

ble Pinion 1st Pinion Shaft, diameter at bearings 1st 2nd diameter at bottom of pinion teeth  
 2nd Pinion Shaft, diameter at bearings 1st 2nd

ool Shafts, diameter at bearings main diameter at wheel crown main Generator Shaft, diameter at bearings 5"  
 Propelling Motor Shaft, diameter at bearings 17 1/4"

ermediate Shafts, diameter as per rule 16.56 as fitted 16 3/8 Thrust Shaft, diameter at collars as per rule 17.39 as fitted 17 1/2"  
 2370 Screw Shaft, diameter as per rule 18.25 as fitted 18 5/8 Is the shaft fitted with a continuous liner YES

onze Liners, thickness in way of bushes as per rule 0.952 as fitted 1 1/2 Thickness between bushes as per rule 0.643 as fitted 1 1/8 Is the after end of the liner made watertight in the  
 peller boss YES If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner YES

he 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 YES  
 two liners are fitted, is the shaft lapped or protected between the liners YES Is an approved Oil Gland or other appliance fitted at the after end of the tube  
 If so, state type NO Length of Bearing in Stern Bush next to and supporting propeller 7'3"

opeller, diameter 19'6" Pitch 17'6" No. of Blades 4 State whether Movable NO Total Developed Surface 1383 square feet.  
 Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine ONE TURBINE Can the H.P. or I.P. Turbines exhaust direct to the  
 No. of Turbines fitted with astern wheels NONE Feed Pumps No. and size 2-200 GPM 1-130 GPM (10'7" x 24")  
 How driven STEAM TURBINE STEAM VERT. SIMPLE

mps connected to the Main Bilge Line No. and size 2-200 GPM 1-150 GPM How driven ELECTRIC MOTOR STEAM VERT. DUPLEX (10'7" x 10")  
 last Pumps, No. and size 1-300 GPM (FWD PUMP ROOM) Lubricating Oil Pumps, including Spare Pump, No. and size 2-60 GPM

two independent means arranged for circulating water through the Oil Cooler YES Suctions, connected both to Main Bilge Pumps and Auxiliary  
 ge Pumps, No. and size:—In Engine and Boiler Room 1 @ 3 1/2" 2 @ 3" (INC MOTOR WELL) 4 @ 2 1/2" In Pump Room  
 Holds, &c. BOWNAIR STORE 2-1" EJECTORS. CHAIR LOCKER 2" EJECTOR. FORD PUMP ROOM 1 1/2" SUCTION P.S. DEW STORES 2 1/2" P.S. PUMP ROOM.

in Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 1 1/2" Independent Power Pump Direct Suctions to the Engine Room  
 ges, No. and size 2 @ 4" Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes YES

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 YES  
 all Sea Connections fitted direct on the skin of the ship CHESTS OR SPILL COCKS Are they fitted with Valves or Cocks VALVES

they 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  
 Below? 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  
 ering plate NO What pipes pass through the bunkers NONE How are they protected

at pipes pass through the deep tanks NONE Have they been tested as per rule YES  
 all Pipes, Cocks, Valves and Pumps in connection with the machinery and all boiler mountings accessible at all times YES

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  
 ces, or from one compartment to another YES Is the Shaft Tunnel watertight NO Is it fitted with a watertight door NO worked from



BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers..... 11354

Is Forced Draft fitted..... YES No. and Description of Boilers..... 2 BABCOCK & WILCOX TYPE Working Pressure..... 500 LBS

Is a Report on Main Boilers now forwarded?..... YES

Is a Donkey 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..... AS PER RULE REQUIREMENTS EXCEPT THERE IS NO SPARE

State the principal additional spare gear supplied..... PROPELLER

The foregoing is a correct description,

Manufacture

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

AMERICAN BUREAU SURVEY

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..... YES

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..... YES

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.) THE MACHINERY OF THIS VESSEL WAS CONSTRUCTED UNDER SURVEY AND TO THE REQUIREMENTS OF THE AMERICAN BUREAU OF SHIPPING. THE SCANTLINGS AND GENERAL ARRANGEMENTS HAVE BEEN CHECKED AS FAR AS PRACTICABLE AND THE MATERIAL AND WORKMANSHIP ARE CONSIDERED SATISFACTORY. THE MACHINERY IS ELIGIBLE IN OUR OPINION TO BE CLASSED WITH RECORD OF REGS. 6/48 WHEN THE CLASSIFICATION SURVEY IS COMPLETED AS PER REPORTS ATTACHED

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

Thomas Donaldson  
Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 20 AUG 1948

Committee's Minute

Assigned

See Rpt. 9



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