

# REPORT ON STEAM TURBINE MACHINERY. No. 105723

Received at London Office 23 DEC 1948

When handed in at Local Office 2 DEC 1948 Port of NEWCASTLE-ON-TYNE

Survey held at WALLSEND Date, First Survey 28/9/48 Last Survey 8/11/48  
 on the TURBO ELEC S.S. "ESSO PURFLEET" Tons Gross 10,712 Net 6,301  
 CHESTER P.A. By whom built SUN S.B. & DRYDOCK CO Yard No. When built 1944  
 made at PITTSBURGH P.A. By whom made WESTINGHOUSE ELEC MFG CO Engine No. 6134-B When made 1944  
 made at NEWYORK By whom made BABCOCK & WILCOX Boiler No. When made 1944  
 Horse Power at Full Power 6,600 Owners ANSO AMERICAN OIL CO LTD Port belonging to LONDON  
 Horse Power as per Rule 1485 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES.  
 for which Vessel is intended CARRYING PETROLEUM IN BUNK.

TURBINE ENGINES, &c. Description of Engines TURBO ELECTRIC  
 Turbines Ahead ONE Direct coupled, single reduction geared to propelling shafts. No. of primary pinions to each set of reduction gearing ✓  
 Astern double reduction geared  
 led to Alternating Current Generator 3 phase 63 periods per second Direct Current Generator rated 5,400 Kilowatts 2,370 Volts at 3,715 revolutions per minute;  
 ing power for driving ONE Propelling Motors, Type MARINE SYNCHRONOUS.  
 400 Kilowatts 2,370 Volts at 93 revolutions per minute. Direct coupled, single or double reduction geared to ONE propelling shafts.

NO.	H.P.			H.P. CONT'D.			H.P. CONT'D.			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.
1	1 3/8"	35 3/4"	1	2"	29"	1	8"	46 1/2"	1			
2	1 7/8"	35 3/4"	1	2 1/8"	30 7/8"	1	10 7/8"	48 1/2"	1			
3	1 3/8"	20 3/4"	1	2 1/8"	30 7/8"	1						
4	1 7/8"	21 3/8"	1	2 1/8"	31 1/2"	1						
5	1 7/8"	24 1/4"	1	2 1/8"	32 3/8"	1						
6	1 9/16"	25 7/8"	1	2 5/8"	33 9/16"	1						
7	1 9/16"	25 3/8"	1	3 1/8"	35 3/4"	1						
8	1 5/8"	25 3/4"	1	3 3/8"	36 3/4"	1						
9	1 1/16"	26 5/8"	1	3 3/8"	38 3/8"	1						
10	1 3/4"	26 7/8"	1	3 7/8"	39 1/8"	1						
11	1 3/16"	27 1/2"	1	5 1/8"	40 3/8"	1						
12	1 3/16"	28 7/8"	1	6 1/8"	41 1/2"	1						

Horse Power at each turbine H.P. 6,600 I.P. ✓ L.P. ✓  
 Shaft diameter at journals H.P. 6 1/2" I.P. ✓ L.P. ✓  
 between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion ✓ 2nd pinion ✓

Pinion diameter 1st ✓ 2nd ✓  
 shafts, diameter at bearings 1st ✓ main ✓  
 Intermediate Shafts, diameter as per rule 16.56" as fitted 16 7/8"  
 Thrust Shaft, diameter at collars as per rule 18.185" as fitted 18 7/8"

Liners, thickness in way of bushes as per rule .858" as fitted 1 7/8"  
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ✓  
 Is an approved Oil Gland or other appliance fitted at the after end of the tube ✓

er, diameter 19' 6" Pitch 17' 6" No. of Blades 4 State whether Moveable No Total Developed Surface 138 square feet.  
 Screw, are arrangements made so that steam can be led direct to the L.P. Turbine ✓  
 No. of Turbines fitted with astern wheels NONE Feed Pumps No. and size 2-TURBO 200 GALS/MIN 1-10"x7"x24" How driven STEAM.

connected to the Main Bilge Line No. and size 1 FIRE & BUTTERWORTH 450 GALS/MIN 1-FIRE & GENERAL SERVICE 450 GALS/MIN How driven ELECTRICALLY. 2-BILGE 145 GALS/MIN.  
 Pumps, No. and size FIRE & GEN SERVICE PUMP. Lubricating Oil Pumps, including Spare Pump, No. and size 2-60 GALS/MIN EACH.  
 independent means arranged for circulating water through the Oil Cooler YES Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge  
 No. and size:—In Engine and Boiler Room 2-3" DIA COFF FORD 1-3" DIA. FATIGUE METER COMPARTMENT In Pump Room 1-4" DIA.  
 etc. 6-3" DIA 1-3 1/2" DIA. BILGE WELL 1-3 1/2" DIA DRY WELL 1-3 1/2" DIA BOILER RM DRAIN 1-3" L.O. SUMP COFFERDAM. 1-3" DIA PROPELLER MOTOR RECESS.

ater Circulating Pump Direct Bilge Suctions, No. and size 1-10" 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 MACOMBE STRAINERS  
 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.  
 ea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks VALVES  
 fired 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 line No  
 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 covering plate YES.  
 es 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 spaces, or from one  
 ent to another YES Is the Shaft Tunnel W.T. BUNKHEAD Is it fitted with a watertight door YES worked from Platform.

003434-003443-0015

BOILERS, &c.—(Letter for record ) Total Heating Surface of Boilers 11,552 sq. ft.

Is Forced Draft fitted YES No. and Description of Boilers 2. B & W MARINE TYPE Working Pressure 500

Is a Report on Main Boilers now forwarded? YES

Is { a Donkey } Boiler fitted? No If so, is a report now forwarded? ✓  
{ an Auxiliary }

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 ✓

Has the spare gear required by the Rules been supplied YES. SPARE GEAR. EXCEPT SPARE PROPELLER.

State the principal additional spare gear supplied

The foregoing is a correct description,

Dates of Survey while at building { During progress of work in shops -- } 1946 SEPT. 26, 29, 30. OCT. 1, 4, 5, 6, 8, 11, 12, 13, 15, 17, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29. NOV. 1, 2, 3, 5, 6, 7, 8  
{ During erection on board vessel -- }  
Total of visits 31

NEWCASTLE-ON-TYNE

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 fired 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 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 YES If so, state name of vessel T.R. TANKERS.

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been constructed under the supervision of the U.S. Coast Guard & the American Bureau of Shipping. Materials and workmanship are considered good. The scantlings and general arrangements have been checked and found in accordance with the plans onboard the vessel. Machinery examined under working conditions and found satisfactory and eligible in my opinion to the needs of the vessel. W.T.B.S. 11,48 500 lbs<sup>2</sup> Spt 464 lbs<sup>2</sup> F.D. T.S.C.L. (N) 10,48. Fitted for oil fuel 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

D.D. McIntyre  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

LHC  
12.47



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Foundation