

# REPORT ON STEAM TURBINE MACHINERY. No. 105723

Received at London Office

NEWCASTLE-ON-TYNE

19

When handed in at Local Office

2 DEC 1948

Port of

28/9/48

Last Survey

8/11/48

19

Survey held at

WALSSEND

(Number of Visits

31

Gross 10,712

Net 6,301

on the TURBO ELEC S.S. "ESSO PURFLEET"

CHESTER P.A.

By whom built SUN B.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

orse Power at Full Power 6,600

Owners ANGLO AMERICAN OIL CO LTD

Port belonging to LONDON

orse Power as per Rule 1485

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted YES

or which Vessel is intended CARRYING PETROLEUM IN BUNK.

TURBINE ENGINES, &c. Description of Engines TURBO ELECTRIC

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 2,310 Volts at 3,715 revolutions per minute;  
 ing power for driving ONE Propelling Motors, Type MARINE SYNCHRONOUS.  
 400 Kilowatts 2,310 Volts at 93 revolutions per minute. Direct coupled, single or double reduction geared to ONE propelling shafts.

NE NG.	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 1/8"	35 3/4"	1	2"	29"	1	8"	46 1/2"	1			
2	1 3/8"	35 3/4"	1	2 1/8"	30 7/8"	1	10 1/8"	48 1/2"	1			
3	1 7/8"	21 3/8"	1	2 1/8"	31 1/2"	1						
4	1 7/8"	24 1/4"	1	2 1/8"	32 3/8"	1						
5	1 9/16"	25 5/8"	1	2 5/8"	33 9/16"	1						
6	1 9/16"	25 3/8"	1	3 1/8"	35 3/4"	1						
7	1 5/8"	25 3/4"	1	3 3/8"	36 3/4"	1						
8	1 1/16"	26 3/8"	1	3 3/8"	38 3/8"	1						
9	1 3/4"	26 7/8"	1	3 7/8"	39 1/8"	1						
10	1 3/4"	27 1/2"	1	5 1/8"	40 3/8"	1						
11	1 3/16"	28 3/8"	1	6 1/8"	41 1/2"	1						

orse 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. ✓  
 Pitch Circle Diameter 1st pinion ✓ 1st reduction wheel ✓  
 2nd pinion ✓ main wheel ✓  
 Width of Face 1st reduction wheel ✓  
 main wheel ✓  
 between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion ✓ 1st reduction wheel ✓  
 2nd pinion ✓ main wheel ✓

Pinion diameter 1st ✓ 2nd ✓  
 Pinion Shafts, diameter at bearings External 1st ✓ 2nd ✓  
 Internal 1st ✓ 2nd ✓  
 diameter at wheel shroud, 1st ✓  
 main ✓  
 Generator Shaft, diameter at bearings ✓  
 Propelling Motor Shaft, diameter at bearings 17 1/25"

diate Shafts, diameter as per rule 16 5/8"  
 as fitted 16 7/8"  
 Thrust Shaft, diameter at collars as per rule 18 1/8"  
 as fitted 18 7/8"  
 Is the shaft fitted with a continuous liner YES

Shaft, diameter as per rule 18 1/8"  
 as fitted 18 7/8"  
 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 ✓  
 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 ✓  
 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 1' 6" 4"

er, diameter 19' 6" Pitch 17' 6" No. of Blades 14 State whether Moveable No Total Developed Surface 138 square feet.  
 Can the H.P. or B. Turbine exhaust direct to the Screw, are arrangements made so that steam can be led direct to the L.P. Turbine ✓  
 YES 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  
 No. and size:—In Engine and Boiler Room 2-3" DIA COFF FORD 1-3" DIA. FATHOMETER COMPARTMENT In Pump Room 1-4" DIA.  
 &c. 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 MACOMB 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.  
 Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks VALVES

ired 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.  
 How are they protected ✓  
 es pass through the bunkers NONE Have they been tested as per rule ✓  
 es pass through the deep tanks NONE

Pipes, 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 watertight 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  
{ an Auxiliary }

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 ✓  
(If not state date of approval)

Main Boilers ✓

Auxiliary Boilers ✓

Donkey Boilers

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. 28, 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 No. 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 steam pumps 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 for the service to which it is fitted. W.T.B.S. 11,48 500 lbs. Spt 464 lbs. F.D. T.S.C.L. (N) 10,48. Fitted for oil fuel F.P. above 150°F.

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

Committee's Minute

Assigned

LHC MAR 12.47

DDH McIntyre  
Engine Surveyor to Lloyd's Register of Shipping.



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Foundation