

# REPORT ON OIL ENGINE MACHINERY.

No. 24881.

Received at London Office

of writing Report 20<sup>th</sup> MAR 1953 When handed in at Local Office 25<sup>th</sup> MAR 1953 Port of GREENOCK

Survey held at GREENOCK Date, First Survey 31/7/51 Last Survey 17/3/1953  
 Book. Number of Visits 144.

726 on the <sup>Single</sup> ~~Triple~~ ~~Quadruple~~ Screw vessel. "TUAREG"  
 at PORT GLASGOW By whom built LITHGOWS LTD., KINGSTON YARD Yard No. 1069 When built 3/1953  
 ines made at GREENOCK By whom made J.G. KINCAID & Co., LTD., Engine No. K220 When made 3/1953  
 key Boilers made at GREENOCK By whom made J.G. KINCAID & Co., LTD., Boiler No. K220 When made 3/1953  
 ke Horse Power 7200 Owners WILH. WILHELMSEN Port belonging to TÖNSBERG  
 Power as per Rule 1440 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES  
 e for which vessel is intended CARRIAGE OF PETROLEUM IN BULK.

ENGINES, &c. —Type of Engines KINCAID-BURNEISTER & WAIN 2 or 4 stroke cycle 2 Single or double acting SINGLE  
 imum pressure in cylinders 700 lbs/sq. in. Diameter of cylinders 750mm Length of stroke 1500mm No. of cylinders 6 No. of cranks 6  
 Indicated Pressure 6.61 kg/cm<sup>2</sup> Ahead Firing Order in Cylinders 1, 5, 3, 6, 2, 4 Span of bearings, adjacent to the crank, measured  
 inner edge to inner edge 1492mm Is there a bearing between each crank YES Revolutions per minute 115  
 ched dia. 2320mm Weight 7550 Kgs Moment of inertia of flywheel (kg m<sup>2</sup>) 6510 Means of ignition COMP. Kind of fuel used HEAVY OIL  
 Solid forged as per Rule AS APPROVED dia. of journals 575mm Crank pin dia. 575mm Crank webs Mid. length breadth 1200mm Thickness parallel to axis 509mm  
 Semi built as fitted 575mm Mid. length thickness 296mm shrunk Thickness around eye-hole 287.5mm  
 Wheel Shaft, diameter as per Rule AS APPROVED as fitted 575mm Intermediate Shafts, diameter as per Rule AS APPROVED as fitted 19 1/2" Thrust Shaft, diameter at collars as fitted 575mm  
 as per Rule AS APPROVED as fitted 24" Is the screw shaft fitted with a continuous liner YES  
 ze Liners, thickness in way of bushes as per Rule AS APPROVED as fitted 1 1/16" Thickness between bushes as per Rule AS APPROVED as fitted 13/16" 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  
 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-  
 osive YES If two liners are fitted, is the shaft lapped or protected between the liners YES Is an approved Oil Gland or other appliances fitted at the after  
 of shaft No If so, state type Length of bearing in Stern Bush next to and supporting propeller 5'-11"  
 peller, dia. 18'-6" Pitch 13'-1" No. of blades 4 Material BRONZE whether moveable SOLID Total developed surface 130 sq. feet  
 ent of inertia of propeller (kg m<sup>2</sup>) 26875 Kg/m<sup>2</sup> Kind of damper, if fitted NONE  
 h of reversing Engines DIRECT Is a governor or other arrangement fitted to prevent racing of the engine YES Means of  
 ection FORCED Thickness of cylinder liners 54mm Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers  
 gged with non-conducting material YES If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned  
 to the engine YES Cooling Water Pumps, No. 2-FW 2-SW Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES  
 ie Pumps worked from the Main Engines, No. NONE Diameter 9" Stroke 10" Can one be overhauled while the other is at work YES  
 nps connected to the Main Bilge Line (No. and size) ONE BALLAST PUMP 9" x 10" x 10" ONE BILGE PUMP 7" x 8" x 8"  
 How driven STEAM STEAM  
 he cooling water led to the bilges YES If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping  
 ngements  
 last Pumps, No. and size 1 @ 170 TONS/HR. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 M.E. DRIVEN 370 TONS/HR.  
 two independent means arranged for circulating water through the Oil Cooler YES Suctions, connected to both main bilge pumps and auxiliary  
 e pumps, No. and size:—In machinery spaces 3 x 3 1/2", 1 x 2 1/2" C/DAM In pump room 3-FORD AUX. 1 x 2 1/2"  
 holds, &c. FORD. 2 x 2 1/2", FORD. C/DAM 1 x 4" FORD. MAIN 2 x 4"  
 ependent Power Pump Direct Suctions to the engine room bilges, No. and size 1 x 8", 1 x 5"  
 all the bilge suction pipes in holds and tunnel well fitted with strum-boxes YES Are the bilge suction pipes in the machinery spaces led from easily  
 essible 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 YES Are they fitted with valves or cocks YES Are they fixed  
 iciently high on the ship's side to be seen without lifting the platform plates YES Are the overboard discharges above or below the deep water line ABOVE  
 e 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 covering plate YES  
 at pipes pass through the bunkers. NONE How are they protected YES  
 at pipes pass through the deep tanks. NONE Have they been tested as per Rule YES  
 e all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times YES  
 he 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 NONE Is it fitted with a watertight door YES worked from YES  
 a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork YES  
 in Air Compressors, No. 2 No. of stages 2 diameters 11 1/2" & 9 1/4" stroke 7" driven by STEAM  
 xiliary Air Compressors, No. 2 No. of stages 2 diameters 11 1/2" & 9 1/4" stroke 7" driven by STEAM  
 all Auxiliary Air Compressors, No. 2 No. of stages 2 diameters 11 1/2" & 9 1/4" stroke 7" driven by STEAM  
 hat provision is made for first charging the air receivers STEAM DRIVEN AIR COMPRESSORS.  
 avenging Air Pumps, No. 2 diameter 6" stroke 7" driven by MAIN ENGINE  
 xiliary Engines crank shafts, diameter (DIESELS) 6" as per Rule APPROVED as fitted 6" No. 2 DIESEL ENDS. & 1 STEAM END. STARBOARD END. RM ON PLAT.  
 ve the auxiliary engines been constructed under special survey YES Is a report sent herewith DIESELS YES



AIR RECEIVERS:—Have they been made under survey. YES State No. of report or certificate. ✓  
Is each receiver, which can be isolated, fitted with a safety valve ~~under Rules~~ - No. RELIEF VALVE FITTED ON CHARGING LINE.  
Can the internal surfaces of the receivers be examined and cleaned. YES Is a drain fitted at the lowest part of each receiver. YES  
Injection Air Receivers, No. ✓ Cubic capacity of each. ✓ Internal diameter. ✓ thickness. ✓  
Seamless, welded or riveted longitudinal joint. ✓ Material. ✓ Range of tensile strength. ✓ Working pressure by Rules. ✓  
Starting Air Receivers, No. 2 Total cubic capacity. 1000 Ft.<sup>3</sup> Internal diameter. CENTRE 6'-0 1/2" ENDS 5'-10 1/2" thickness. 1 1/2" Actual. 3 1/2"  
Seamless, welded or riveted longitudinal joint. RIVETED Material. STEEL Range of tensile strength. 29/33 TONS Working pressure Actual. 35 Re  
IS A DONKEY BOILER FITTED. YES If so, is a report now forwarded. YES  
Is the donkey boiler intended to be used for domestic purposes only. No  
PLANS. Are approved plans forwarded herewith for shafting. YES Receivers. 14/9/51 Separate fuel tanks.  
Donkey boilers. YES General pumping arrangements. YES - WITH PUMPING ARRANGEMENTS IN MACHINERY SPACE. YES.  
Oil fuel burning arrangements. YES SHIP PLANS.  
Have Torsional Vibration characteristics been approved. YES Date of approval. 3/12/51  
SPARE GEAR.  
Has the spare gear required by the Rules been supplied. YES.  
State the principal additional spare gear supplied. COMPLETE LIST OF SPARE GEAR APPENDED.

for JOHN G. KINCAID & COY. LIMITED

The foregoing is a correct description of the machinery of the vessel. Chief Draughtsman. Manufacturer.  
Dates of Survey while building. During progress of work in shops - (1951) JULY 31 AUG 7 29 SEPT 10 OCT 1 23 NOV 1 9 15 28 DEC 4 14 18 19 26 (1952) JAN 12 19 21 24 26 APR 11 14 18 23 28 30 MAY 4 7 9 11 14 18 23 28 30 JUN 1 4 7 9 11 14 18 23 28 30 JUL 1 4 7 9 11 14 18 23 28 30 AUG 1 4 7 9 11 14 18 23 28 30 SEP 1 4 7 9 11 14 18 23 28 30  
During erection on board vessel - (1953) JAN 8 9 12 14 15 16 19 21 23 26 28 29 FEB 4 5 6 7 11 12 15 16 26 27 MAR 11 17  
Total No. of visits. 144  
Dates of examination of principal parts - Cylinders 27/6/52 TO 24/9/52 Covers. ✓ Pistons 16/6/52 TO 4/11/52 Rods 4/11/52 TO 15/10/52 Connecting rods 16/6/52 TO 4/11/52  
Crank shaft 4/11/52 Flywheel shaft INTEGRAL WITH Thrust shaft 4/11/52 Intermediate shafts 15/10/52 TO 15/11/52 Tube shaft ✓  
Screw shaft 13/10/52 Propeller 13/10/52 Stern tube 13/11/52 Engine seatings 6/11/52 Engine holding down bolts 16/1/52  
Completion of fitting sea connections 13/11/52 Completion of pumping arrangements 27/2/53 Engines tried under working conditions 17/3/52  
Crank shaft, material. 22487 & 22487A Identification mark. ✓ Flywheel shaft, material. ✓ Identification mark. ✓  
Thrust shaft, material. 22487B Identification mark. 22487B 2 OFF GUS REPORT Identification marks. ✓  
Tube shaft, material. ✓ Identification mark. ✓ Intermediate shafts, material. 22487E Identification marks. ✓  
Screw shaft, material. 22487E Identification mark. ✓  
Identification marks on air receivers. OUTBOARD LR TEST NO. C 4196 T.P. 575 lbs. W.P. 350 lbs. H.K.T. 30/7/52 INBOARD LR TEST NO. C 4201 T.P. 575 lbs. W.P. 350 lbs. H.K.T. 22/8/52 SPARE FLR 22 1054 H.K.T.  
Welded receivers, state Makers' Name. ✓  
Is the flash point of the oil to be used over 150°F. YES  
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with. YES  
Description of fire extinguishing apparatus fitted. STEAM & CHEMICAL (COMPLETE LIST OF APPLIANCES APPENDED)  
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo. YES If so, have the requirements of the Rules been complied with. YES  
If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with. ✓  
Is this machinery duplicate of a previous case. No If so, state name of vessel. ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) THE MACHINERY OF THIS VESSEL HAS BEEN CONSTRUCTED UNDER SPECIAL SURVEY IN ACCORDANCE WITH THE APPROVED PLANS THE RULES OF THIS SOCIETY. THE MATERIALS AND THE WORKMANSHIP ARE GOOD THE MACHINERY HAS BEEN EFFICIENTLY INSTALLED ON BOARD THE VESSEL TRIED UNDER FULL WORKING CONDITIONS WITH SATISFACTORY RESULTS. THE MACHINERY IS ELIGIBLE, IN MY OPINION, TO BE CLASSED IN THE REGISTER BOOK WITH THE NOTATION OF + LMC 3/53 AND NOTATIONS TS CL, 3 D.B.'s 180 lbs. OIL ENGINE.

N.B. THE TORSIONAL VIBRATION CHARACTERISTICS WERE APPROVED IN THE SECRETARY'S LETTER OF THE 3RD DECEMBER, 1951. A NOTICE BOARD HAS BEEN FITTED AT THE CONTROL STATION STATING THAT THE ENGINE HAS NOT TO BE OPERATED CONTINUOUSLY BETWEEN 67 & 80 R.P.M.

The amount of Entry Fee ENGINE £254-0-0 INSTALLATION £142-0-0 Special Air Receivers £20-0-0 WELDING £5-15-0 Donkey Boiler Fee... £90-0-0 Travelling Expenses (if any) £  
When applied for 24th MARCH 1953  
When received 26th MARCH 1953

H.K. Taylor.  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW 8 APR 1953  
Assigned + LMC 3.53. Oil Engine with torsional endorsement 3 D.B. - 180 lb.

