

# REPORT ON OIL ENGINE MACHINERY.

No. 24192

7 SEP 1950

Received at London Office

Date of writing Report 26 August 1950 When handed in at Local Office 30 August 1950 Port of GREENOCK

No. in Survey held at GREENOCK Date, First Survey 27 August 1949 Last Survey 15 August 1950  
Reg. Book. Number of Visits 49

Single on the Twin Triple Quadruple Screw vessel. BRITISH PEER Tons Gross 3161.19 Net 1496.54  
Built at PORT GLASGOW By whom built LITHGOWS L<sup>o</sup> Yard No. 1043 When built 1950  
Engines made at GREENOCK By whom made JOHN G. KINCAID & CO L<sup>o</sup> Engine No. K209 When made 1950  
Donkey Boilers made at do By whom made do Boiler No. K209 When made 1950  
Brake Horse Power 3200 Owners BRITISH TANKER CO L<sup>o</sup> Port belonging to LONDON  
H.N. Power as per Rule 625 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
Trade for which vessel is intended OPEN SEA SERVICE OIL TANKER

OIL ENGINES, &c.—Type of Engines DIESEL (UNDER PISTON SUP<sup>ch</sup>) 2 or 4 stroke cycle 4 Single or double acting Single  
Maximum pressure in cylinders 650 lb Diameter of cylinders 29 7/8" Length of stroke 1500 No. of cylinders 6 No. of cranks 6  
Mean Indicated Pressure 115 Ahead Firing Order in Cylinders 156324 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 98 7/8" Is there a bearing between each crank Yes Revolutions per minute 115  
Flywheel dia. 2489 Weight 2499 kg Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) 23.53 x 10<sup>6</sup> Means of ignition Compression Kind of fuel used Diesel  
Crank Shaft: Solid forged dia. of journals as per Rule app Crank pin dia. 505 Crank webs Mid. length breadth 980 Thickness parallel to axis 310  
Semi built dia. of journals as fitted 505 Crank webs Mid. length thickness 310 shrunk Thickness around eye hole 298  
All built as fitted 4 1/2 hole & 2 3/8 hole  
Flywheel Shaft, diameter as per Rule app Intermediate Shafts, diameter as per Rule app Thrust Shaft, diameter at collars as fitted 4 5/8  
Tube Shaft, diameter as per Rule app Screw Shaft, diameter as fitted 16 Is the (tube/screw) shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 13/16 Thickness between bushes as per Rule 13/16 Is the after end of the liner made watertight in the propeller 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  
If 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 Yes  
If two liners are fitted, is the shaft lapped or protected between the liners One Is an approved Oil Gland or other appliance fitted at the after end of tube shaft No If so, state type ✓  
Length of bearing in Stern Bush next to and supporting propeller 5' 4"

Propeller, dia. 16' 0" Pitch 10' 9" No. of blades 4 Material Alumina whether moveable No Total developed surface 88 sq. feet  
Moment of inertia of propeller (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) 106.2 x 10<sup>6</sup> Kind of damper, if fitted None  
Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when decoupled Yes Means of lubrication Forced Thickness of cylinder liners 53 Lga Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled Yes  
Lagged with non-conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine 4 2 ME  
Cooling Water Pumps, No. 2 Stand Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Bilge Pumps worked from the Main Engines, No. None Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓  
Pumps connected to the Main Bilge Line (No. and size One @ 170 tons/hr Two @ 100 tons/hr) How driven Steam  
Is the cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements ✓

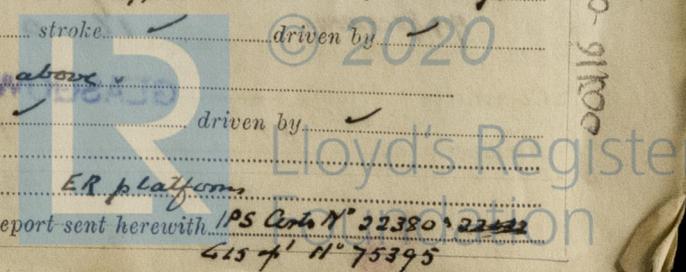
Oil Pumps, No. and size One @ 170 tons/hr Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 1 ME 100 tons/hr 1 Standby 100 tons/hr  
Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both main bilge pumps and auxiliary pumps, No. and size:—In machinery spaces Three @ 3 1/2" In pump room M10 2 2 1/4" M08 1 2 1/2"  
Holds, &c. Two @ 2 1/2"

Independent Power Pump Direct Suctions to the engine room bilges, No. and size Two @ 6"  
Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes Yes Are the bilge suction in the machinery spaces led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes  
Are all Sea Connections fitted direct on the skin of the Ship Yes Are they fitted with valves or cocks Both Are they fixed efficiently 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  
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 covering plate Yes  
Are all pipes pass through the bunkers ✓ How are they protected ✓  
Are all pipes pass through the deep tanks ✓ Have they been tested as per Rule ✓  
Are all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Is 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 spaces, or from one compartment to another Yes Is the shaft tunnel watertight None Is it fitted with a watertight door ✓ worked from ✓  
If the vessel is a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓  
Auxiliary Air Compressors, No. Two No. of stages Two diameters 9 1/4" & 4" stroke 7 1/2" driven by Stm Eng  
All Auxiliary Air Compressors, No. ✓ No. of stages ✓ diameters ✓ stroke ✓ driven by ✓  
Is any provision made for first charging the air receivers Steam driven compressors as above  
Reversing Air Pumps, No. None diameter ✓ stroke ✓ driven by ✓  
Auxiliary Engines crank shafts, diameter as per Rule No Position ER platforms  
Have the auxiliary engines been constructed under special survey ✓ Is a report sent herewith IPS Cert N° 22380 22381 415 41 N° 75395

EWK  
21/9/50

200-2100-9100



**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 as per Rule... *Yes in supply 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.** *None* ✓ 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.** *Two* ✓ Total cubic capacity... *900 cu ft* Internal diameter... *6'-0 1/8" to 5'-10 1/2"* thickness... *3/32" & 1/16"*  
 Seamless, welded or riveted longitudinal joint... *riveted* Material... *SMS* Range of tensile strength... *29/33 tons* Working pressure... *by Rules* *35%* Actual... *35%*

**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... *20/8/48* (If not, state date of approval) Receivers... *9/3/48* Separate fuel tanks... *2/3/48*  
 Donkey boilers... *26/2/48* General pumping arrangements... *7/2/50* Pumping arrangements in machinery space... *1/9/49*  
 Oil fuel burning arrangements... *11/8/49*  
 Have Torsional Vibration characteristics been approved... *Yes for 115 rpm* Date of approval... *20/8/48*

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied... *Yes* ✓  
 State the principal additional spare gear supplied... *See separate list*  
*Spare Screw shaft 1104DS 18447 F/4322 CHN 20/3/50*  
*4 blade C1 propeller*  
*SERVICE BHP 3200 @ 1150*  
*MAX BHP 3520 @ 1190*

For **JOHN G. KINCAID & CO. LTD.**

The foregoing is a correct description,

Manufacturer.

Chief Draughtsman.

Dates of Survey while building  
 During progress of work in shops - - - (1948) Aug. 8, 29, Sep. 12, Oct. 2, 12, Nov. 3, 4, Dec. 7, 12, 22, 27, 29, (1950) Jan. 6, 10, 13, 19, 20, 24, 27, Feb. 3, 5, 6, 10, 15, 17, 20, 24, 27, Mar. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, Apr. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, May 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, June 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, July 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, Aug. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, Sept. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, Oct. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, Nov. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, Dec. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1950  
 During erection on board vessel - - -  
 Total No. of visits... *79*

Dates of examination of principal parts—Cylinders... *19/1/50* Covers... *6/1/50* Pistons... *7/3/50* Rods... *25/4/50* Connecting rods... *25/4/50*  
 Crank shaft... *25/4/50* Flywheel shaft... ✓ Thrust shaft... *25/4/50* Intermediate shafts... *6/4/50* Tube shaft... ✓  
 Screw shaft... *20/3/50* Propeller... *22/3/50* Stern tube... *15/3/50* Engine seatings... *5/5/50* Engine holding down bolts... *25/5/50*  
 Completion of fitting sea connections... *28/3/50* Completion of pumping arrangements... *15/5/50* Engines tried under working conditions... *15/5/50*  
 Crank shaft, material... *SMS* Identification mark... *18447 CHN 25/4/50* Flywheel shaft, material... ✓ Identification mark... ✓  
 Thrust shaft, material... *SMS* Identification mark... *18447 CHN 25/4/50* Intermediate shafts, material... *SMS* Identification marks... *18447 CHN 25/4/50*  
 Tube shaft, material... ✓ Identification mark... ✓ Screw shaft, material... *SMS* Identification mark... *18447 CHN 20/3/50*  
 Identification marks on air receivers... *3501A, 3501B, 35447D, 35447E, 35644WP, 35644WP, AFS 3/4/50, CHN 7/4/50*

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...  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo... *Oil tanker* ✓ 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... *Yes* ✓ If so, state name of vessel... *BRITISH PATRIOT GRK FEN 24072*

**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 Rules & approved plans. The materials & workmanship are sound & good. The engine & boilers have been efficiently installed in the vessel and tested on a sea trial under full working conditions with satisfactory results. The installation is eligible in my opinion to be classed in the Society's register book with Record + LMC 8.50. Notation Screw shaft C.L. 2 DBs 150 lb / 1" FO fitting for oil fuel FP above 150°F.*

*Certificates & Testing reports submitted to this engine. K208 already reported and K211 & K213 follow will be forwarded on completion of the Contract.*

The amount of Entry Fee ... £ *200*  
 Special ... £ : :  
 Donkey Boiler Fee... £ *59 : 10*  
 AIR RECEIVERS  
 Travelling Expenses (if any) £ *16 : 0*  
 When applied for... *29<sup>th</sup> Aug.* 1950  
 When received... *1<sup>st</sup> SEPT.* 1950  
 Clerk of the Society  
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute... **GLASGOW** 6 SEP 1950  
 Assigned... *+ LMC 8.50 Oil Engine*  
 © 2020  
 Lloyd's Register Foundation

Certificates (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.