

## REPORT ON OIL ENGINE MACHINERY.

No 23722.

Received at London Office

Date of writing Report 2<sup>nd</sup> AUG. 1948. When handed in at Local Office 6<sup>th</sup> AUG. 1948. Port of GREENOCKNo. in Survey held at GREENOCK  
Reg. Book.Date, First Survey 5<sup>th</sup> DECEMBER 1947. Last Survey 29<sup>th</sup> JULY 1948.  
Number of Visits 54.Single  
on the Twin  
Triple  
Quadruple  
Screw vessel"BRITISH ADVOCATE" OIL TANKER.Tons Gross 8573.22  
Net 4936.77

Built at PORT GLASGOW

By whom built LITHGOWS L<sup>td</sup>

Yard No. 1033 When built 1948

Engines made at GREENOCK

By whom made JOHN G. KINCAID & CO L<sup>td</sup>

Engine No. 4189 When made 1948

Donkey Boilers made at do

By whom made do

Boiler No. 4189 When made 1948

Brake Horse Power 3200

Owners BRITISH TANKER CO L<sup>td</sup>

Port belonging to LONDON

Nom. Horse Power as per Rule 625<sup>MN</sup>

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

Trade for which vessel is intended

OPEN SEA SERVICE

OIL ENGINES, &amp;c.—Type of Engines Diesel (under piston supp ch) 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 650 lbs

Diameter of cylinders 740<sup>7</sup>/<sub>16</sub>Length of stroke 1500<sup>7</sup>/<sub>16</sub>

No. of cylinders 6

No. of cranks 6

Mean Indicated Pressure 115 lbs

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 988<sup>7</sup>/<sub>16</sub>

Is there a bearing between each crank Yes

Revolutions per minute 115

Flywheel dia. 2489<sup>7</sup>/<sub>16</sub>

Weight 2499 Kgs.

Means of ignition Compression

Kind of fuel used Diesel oil

Crank Shaft, { Solid forged  
Semi built  
All builtdia. of journals as per Rule 44<sup>1</sup>/<sub>2</sub>  
as fitted 505Crank pin dia. 505<sup>7</sup>/<sub>16</sub>Crank Webs Mid. length breadth 980<sup>7</sup>/<sub>16</sub>  
Mid. length thickness 310<sup>7</sup>/<sub>16</sub>Thickness parallel to axis 310<sup>7</sup>/<sub>16</sub>

Thickness around eyehole 292.5

Flywheel Shaft, diameter as per Rule 44<sup>1</sup>/<sub>2</sub>  
as fitted 17Intermediate Shafts, diameter as per Rule 44<sup>1</sup>/<sub>2</sub>  
as fitted 17Thrust Shaft, diameter at collars as per Rule 44<sup>1</sup>/<sub>2</sub>  
as fitted 454<sup>7</sup>/<sub>16</sub>Tube Shaft, diameter as per Rule 44<sup>1</sup>/<sub>2</sub>  
as fitted 16Screw Shaft, diameter as per Rule 44<sup>1</sup>/<sub>2</sub>  
as fitted 16Is the { tube  
screw } shaft fitted with a continuous liner YesBronze Liners, thickness in way of bushes as per Rule 3<sup>1</sup>/<sub>16</sub>  
as fitted 13<sup>1</sup>/<sub>16</sub>Thickness between bushes as per Rule 9<sup>1</sup>/<sub>16</sub>  
as fitted 13<sup>1</sup>/<sub>16</sub>

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 Yes

Is an approved Oil Gland or other appliance fitted at the after end of the tube

shaft No If so, state type

Length of Bearing in Stern Bush next to and supporting propeller 5'-4"

Propeller, dia. 15'-9"

Pitch 10'-9"

No. of blades 4

Material Bronze

whether Moveable No

Total Developed Surface 88 sq. feet

Method of reversing Engines Air Servo Motor

Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes

Means of lubrication

Forced

Thickness of cylinder liners 41<sup>7</sup>/<sub>16</sub> top  
41<sup>7</sup>/<sub>16</sub> bottom

Are the cylinders fitted with safety valves Yes

Are the exhaust pipes and silencers water cooled or 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

Cooling Water Pumps, No. Two &amp; Two stand by

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  
How driven

One @ 170 tons/hr Two @ 100 tons/hr ea.

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

Ballast Pumps, No. and size One @ 170 tons/hr

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size One ME 100 tons/hr  
One Steam 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 Bilge

Pumps, No. and size:—In Machinery Spaces Three @ 3<sup>1</sup>/<sub>2</sub>"In Pump Room Four @ 12<sup>1</sup>/<sub>2</sub>"In Holds, &c. 2 @ 2<sup>1</sup>/<sub>2</sub>"

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 Oil tanker No tunnel

Are the Bilge Suctions 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 sufficiently 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

What pipes pass through the bunkers None

How are they protected

What 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 Is the Shaft Tunnel watertight None

Is it fitted with a watertight door

worked from

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Main Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Auxiliary Air Compressors, No. Two

No. of stages Two

Diameters 11<sup>1</sup>/<sub>4</sub> & 4<sup>3</sup>/<sub>4</sub>

Stroke 8"

Driven by Steam engine

Small Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

What provision is made for first Charging the Air Receivers

Steam compressor as above

Scavenging Air Pumps, No.

Diameter

Stroke

Driven by

Auxiliary Engines crank shafts, diameter as per Rule

No.

Position

Have the Auxiliary Engines been constructed under special survey.

Is a report sent herewith London. Contd. D. 17921

002897-002906-0031



AIR RECEIVERS: - Have they been made under survey *Yes*  
Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes*  
Can the internal surfaces of the receivers be examined and cleaned *Yes*  
Injection Air Receivers, No. *None* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*  
Seamless, lap 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"* thickness *3 1/32"*  
~~Seamless, lap welded~~ riveted longitudinal joint *Yes* Material *SMS* Range of tensile strength *29/33 tons* Working pressure by Rules *364 lb*  
Actual *356 lb*  
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 *20-3-47* Receivers *11-12-47* Separate Fuel Tanks *23-12-47*  
(If not, state date of approval) *4-1-47* Donkey Boilers *20-12-47* General Pumping Arrangements *9-2-48* Pumping Arrangements in Machinery Space *19-12-47*  
Oil Fuel Burning Arrangements *27-1-48* SPARE GEAR. *TOTSONIAL VIBRATIONAL CHARACTERISTICS. 4-1-47 for 115 rpm.*  
Has the spare gear required by the Rules been supplied *Yes*  
State the principal additional spare gear supplied *Spare Set screw 110405 16284 F7327 CHH 7-5-48.*

The foregoing is a correct description,  
for JOHN G. KINCAID & CO. LIMITED.  
*J. Kincaid* Chief Draughtsman. Manufacturer.

Dates of Survey while building  
(During progress of work in shops - -) (1947) DEC 5-10-29 (1948) JAN. 21. FEB. 6-19-25-27. MAR. 1-8-9-10-11-12-15-16-19-24-26-30. APR. 2-13-14-15-19-20-21-22-26-27-29-30  
(During erection on board vessel - -) MAY 6-7-11-13-17-18-19-24-26-28. JUNE 3-4-8-10-11-15-16-18-21-22-24-29. JULY 2-27-29.  
Total No. of visits *54*  
Dates of Examination of principal parts - Cylinders *15-3-48* Covers *15-3-48* Pistons *15-3-48* Rods *7-5-48* Connecting rods *7-5-48*  
Crank shaft *7-5-48* Flywheel shaft *✓* Thrust shaft *7-5-48* Intermediate shafts *15-4-48* Tube shaft *✓*  
Screw shaft *15-4-48* Propeller *15-4-48* Stern tube *19-3-48* Engine seatings *7-5-48* Engines holding down bolts *28-5-48*  
Completion of fitting sea connections *27-4-48* Completion of pumping arrangements *29-7-48* Engines tried under working conditions *29-7-48*  
Crank shaft, Material *Weds CS* Identification Mark *LR 16284 CHH 7/5/48* Flywheel shaft, Material *✓* Identification Mark *✓*  
Thrust shaft, Material *SMS* Identification Mark *LR 16284 CHH 7/5/48* Intermediate shafts, Material *SMS* Identification Mark *LR 16351 CHH 15/4/48*  
Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *SMS* Identification Mark *LR 16284 CHH 15/4/48*

Identification Marks on Air Receivers  
*N° 2478 584 lbs test 356 WP CHH 21-4-48*  
*N° 2480 584 lbs test 356 WP CHH 26-4-48*  
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 under boiler engine. 10-2 gal portable. 1-10 gal with hose.*  
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 *No*  
Is this machinery duplicate of a previous case *✓* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c.)  
*This machinery has been constructed under Special Survey in accordance with the Rules and approved plans. The materials & workmanship are sound & good. The engine and boilers have been efficiently 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 7-48 & Notation Screw shaft C.L. 2 DB, 150 lbs) "FD fitted for oil fuel FP above 150° F.*

Forging certificates common to this engine and engine N° K190. K201. K202 to follow and K200 already reported have been retained for reference & will be forwarded on completion of the contract

The amount of Entry Fee .. £200.:	When applied for,
Special ... .. £:	4 <sup>th</sup> AUG 1948.
Donkey Boiler Fee ... £59:10:	When received,
AIR RECEIVERS <i>18</i> 0 0	19
Travelling Expenses (if any) £:	

*Charles J. Hunter*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 17 AUG 1948*  
Assigned *-1- LMC 7.48 2 DB 150 lb*  
*all. eng.*