

# REPORT ON OIL ENGINE MACHINERY.

No 72844

Received at London Office

23 JUN 1948

Date of writing Report 14 Jun 1948 When handed in at Local Office

16 Jun 1948 Port of

GLASGOW

No. in Survey held at Reg. Book.

GLASGOW

Date, First Survey

7 Oct 46

Last Survey

3.6.48 19

Number of Visits

Single  
on the Twin  
Triple  
Quadruple

Screw vessel

TANKER M.V. BRITISH RANGER

Tons Gross 8545  
Net 4949

Built at GLASGOW

By whom built HARLAND & WOLFF LTD.

Yard No. 1362 When built 1948

Engines made at GLASGOW

By whom made HARLAND & WOLFF LTD.

Engine No. 1362 When made 1948

Donkey Boilers made at BELFAST

By whom made HARLAND & WOLFF LTD.

Boiler No. 1362 When made 1948

Brake Horse Power 3200

Owners BRITISH TANKER CO. LD.

Port belonging to LONDON.

Nom. Horse Power as per Rule 696

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted YES.

Trade for which vessel is intended

OCEAN GOING

OIL ENGINES, &c.—Type of Engines Heavy Oil Diesel injection 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 650 lbs

Mean Indicated Pressure 128 lbs

Diameter of cylinders 740 7/8

Length of stroke 1500 7/8

No. of cylinders 6 No. of cranks 6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 972 7/8

Is there a bearing between each crank Yes

Revolutions per minute 115

Flywheel dia. 2489 7/8

Weight 2590 kg.

Means of ignition Comp.

Kind of fuel used Diesel

Crank Shaft, Solid forged dia. of journals as per Rule 490 7/8

as fitted 505 7/8

Crank pin dia. 505 7/8

Crank Webs 230% Centre Hole

Mid. length breadth 840 7/8

Thickness parallel to axis 310 7/8

Flywheel Shaft, diameter as per Rule 115 7/8 Centre Hole

as fitted 305 7/8

Intermediate Shafts, diameter as per Rule 128

as fitted 17 1/2

Thrust Shaft, diameter at collars as per Rule 340 7/8

as fitted 434 7/8

Tube Shaft, diameter as per Rule 1409

as fitted 16

Screw Shaft, diameter as per Rule 17/32

as fitted 21/32

Is the tube shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 3/4

as fitted 13/16

Thickness between bushes as per Rule 17/32

as fitted 21/32

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

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

If two liners are fitted, is the shaft lapped or protected between the liners

Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft No

Propeller, dia. 13'6"

Pitch 12'0"

No. of blades 4

Material Bronze

whether Moveable No

Total Developed Surface 45 sq. feet

Method of reversing Engines Direct

Is a governor or other arrangement fitted to prevent racing of the engine when de-clutching Yes

Means of lubrication Sarcid

Thickness of cylinder liners 41 7/8

Are the cylinders fitted with safety valves Yes

Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged

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. 2 SEAWATER 2 FRESH WATER

Is the sea suction provided with an efficient strainer which can be cleared within the vessel

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 2 Bilge Duplex 8' x 8 1/2 x 8 1 Ballast Duplex 9' x 10 x 10

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

Ballast Pumps, No. and size 1 @ 9' x 10' x 10'

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 M. Eng. 100 Tons/Hr 1 Stencil by 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 3 @ 3 1/2 5 @ 2" only bilges etc.

In Pump Room —

In Holds, &c. —

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 @ 6" 1 @ 8"

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes

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 Below

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 Yes

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. None

No. of stages —

Diameters —

Stroke —

Driven by —

Auxiliary Air Compressors, No. Two

No. of stages 2

Diameters 280 7/8 245 7/8

Stroke 130 7/8

Driven by Steam engine

Small Auxiliary Air Compressors, No. None

No. of stages —

Diameters —

Stroke —

Driven by —

What provision is made for first Charging the Air Receivers Two steam driven compressors

Scavenging Air Pumps, No. None

Diameter —

Stroke —

Driven by —

Auxiliary Engines crank shafts, diameter as per Rule —

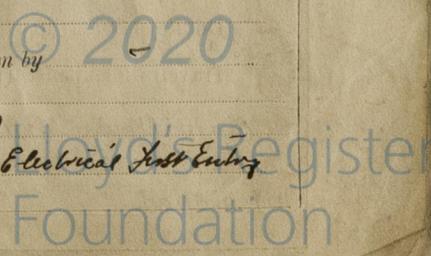
as fitted —

No. Two Steam

Position Starboard (forward)

Have the Auxiliary Engines been constructed under special survey Yes

Is a report sent herewith Yes - See Electrical Test Entry



AIR RECEIVERS: - Have they been made under survey *Yes* ✓ State No. of Report or Certificate *Belfast Cert. N° X.12*

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* ✓ 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, lap welded or riveted longitudinal joint \_\_\_\_\_ Material \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Working pressure \_\_\_\_\_  
by Rules \_\_\_\_\_  
Actual \_\_\_\_\_

Starting Air Receivers, No. *2* ✓ Total cubic capacity *800 cub. ft.* Internal diameter *6 8/16"* thickness *1/32"*  
Seamless, lap welded or riveted longitudinal joint *Welded* Material *Steel* Range of tensile strength *29/33 ton* Working pressure \_\_\_\_\_  
by Rules *Off.*  
Actual *356 lb.*

IS A DONKEY BOILER FITTED? *2 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 *20-11-46* Receivers *Belfast* Separate Fuel Tanks *-*

Donkey Boilers *Belfast* General Pumping Arrangements \_\_\_\_\_ Pumping Arrangements in Machinery Space *6-1-48*  
Oil Fuel Burning Arrangements *26-1-48*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes. See list attached hereto* ✓

State the principal additional spare gear supplied *Screw shaft & C. I. Propeller*

SCREW SHAFT MARKS.

LLOYDS  
58187  
NH  
28729B  
24-10-47

The foregoing is a correct description and the particulars of the installation as filled are as approved for torsional vibration characteristics.

The foregoing is a correct description.

*Wm. J. Wright.*

Manufacturer.

Dates of Survey while building  
During progress of work in shops - *1946 Oct. 7, 23. 1947 Feb. 13, 19. May 8, 24, 25, 29. Sep. 4, 17, 18, 22. Oct. 1, 2, 4, 8, 9, 15, 16, 22, 23. Nov. 3, 5, 6, 10, 12, 13, 19, 20, 24, 27, 28. Dec. 1, 3, 4, 8, 10, 11, 15, 17, 19, 22, 24, 26, 29.*  
During erection on board vessel - *1948 Jan. 6, 7, 9, 14, 15, 16, 19, 21, 22, 28, 29, 30. Feb. 2, 5, 17, 23. Mar. 2, 4, 8, 9, 11, 12, 15, 16, 17, 19, 24, 26, 30. Apr. 1, 2, 7, 13, 14, 15, 16, 19, 20, 21, 22, 23, 27, 28. May 3, 5, 6, 10, 17, 19, 20, 24, 25, 28. Jun. 3.*  
Total No. of visits *100*

Dates of Examination of principal parts - Cylinders *14-1-48 to 5-2-48* Covers *5-2-48* Pistons \_\_\_\_\_ Rods \_\_\_\_\_ Connecting rods *21-1-48*

Crank shaft *17-12-47* Flywheel shaft *17-12-47* Thrust shaft *11-12-47* Intermediate shafts *11-12-47* Tube shaft \_\_\_\_\_

Screw shaft *1-12-47* Propeller *5-11-47* Stern tube *1-12-47* Engine sealings *22-1-48* Engines holding down bolts *6.5.48*

Completion of fitting sea connections *11-12-47* Completion of pumping arrangements *28.5.48* Engines tried under working conditions *3.6.48*

Crank shaft, Material *STEEL* Identification Mark *NK 17-12-47* Flywheel shaft, Material *STEEL* Identification Mark *LLOYDS N° 17075*

Thrust shaft, Material *STEEL* Identification Mark *LLOYDS 58131* Intermediate shafts, Material *STEEL* Identification Marks *NK 11-12-47*

Tube shaft, Material \_\_\_\_\_ Identification Mark \_\_\_\_\_ Screw shaft, Material *STEEL* Identification Mark *NK 1-12-47*

Identification Marks on Air Receivers *N° 410 and 411*

LLOYDS TEST  
584 LB  
WP 356 LB  
ROB. 9-2-48  
ROB 10-2-48

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 *Water, Steam & Foamite*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *Tanker* 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 duplicate of a previous case *Yes* If so, state name of vessel *M/V British Knight Rpt. N° 71094.*

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 and approved plans*

*The materials and workmanship are good*

*The machinery has been efficiently secured in position on board the vessel, tried under full working conditions and found satisfactory, and is eligible in our opinion to be classed in the Register Book with Record of LMC 6.48 and notation T.S. CL*

*2 D.B Working pressure 150 lbs per sq. inch*

*Torsional vibration characteristics approved see London letter 9-12-46*

*Service Speed of 11.5 RPM.*

The amount of Entry Fee .. £ *✓* : When applied for, \_\_\_\_\_  
Special ... .. £ *214.4* : *22 JUN 1948*  
Donkey Boiler Fee ... .. £ *✓* : When received, \_\_\_\_\_  
Travelling Expenses (if any) £ *✓* : \_\_\_\_\_

Committee's Minute

GLASGOW

22 JUN 1948

Assigned

+ LMC 6.48

T.S. (CL)

2 DB (150 lb.)

*W. Russell & Co. Surveyors*  
Engineer Surveyors to Lloyd's Register of Shipping.



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Lloyd's Register Foundation

Glasgow  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)  
Certificate (if required) to be sent to \_\_\_\_\_