

Rpt. 4b.

## REPORT ON OIL ENGINE MACHINERY.

No. 30561

30 JAN 1931

Date of writing Report

When handed in at Local Office

29 JAN 1931

Port of *Lundeland*No. in  
Reg. Book.

Survey held at

*Lundeland*

Date, First Survey

*May 6 '30*

Last Survey

*Jan 27 1931*

Number of Visits

*48*Single  
on the *Twin*  
Triple  
Quadruple*MOTOR*  
Screw vessel*BRITISH SCIENCE.*Tons  
Gross  
Net

Built at

*Janus-on-Tyne*

By whom built

*Palmer & Co. Ltd.*

Yard No.

*1003*

When built

*1931*

Engines made at

*Lundeland*

By whom made

*Wm. Gifford & Sons*

Engine No.

*182*

When made

*1931*

Donkey Boilers made at

*Janus-on-Tyne*

By whom made

*Palmer & Co. Ltd.*

Boiler No.

When made

*1931*

Brake Horse Power

*2850*

Owners

*British Tanker Co*

Port belonging to

Nom. Horse Power as per Rule

*687*

Is Refrigerating Machinery fitted for cargo purposes

*No*

Is Electric Light fitted

*Yes*

Trade for which vessel is intended

*Oil Tanker.*OIL ENGINES, &c.—Type of Engines *DOXFORD OPPOSED PISTON INJECTION* 2 or 4 stroke cycle *2* Single or double acting *SINGLE*

Maximum pressure in cylinders

*568 LBS*

Diameter of cylinders

*600" = 23 7/8"*

Length of stroke

*23 1/2"*

No. of cylinders

*4*

No. of cranks

*4, 3 THROWN*

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge

*1050"*

Is there a bearing between each crank

*Yes*

Revolutions per minute

*84*

Flywheel dia.

Weight

Means of ignition

*TEMP OF COMPRESSION*

Kind of fuel used

*CRUDE OIL*

Crank Shaft, dia. of journals

*4 1/2"*

as per Rule

Crank pin dia.

*4 1/2"*

Crank Webs

Mid. length breadth

*650"*

Thickness parallel to axis

*260"*

shrink

*190"*

Flywheel Shaft, diameter

*4 3/4"*

as per Rule

Intermediate Shafts, diameter

*5 1/2"*

as per Rule

Thrust Shaft, diameter at collars

*4 3/4"*

as per Rule

as fitted

*4 3/4"**APPROVED*

Tube Shaft, diameter

*4 3/4"*

as per Rule

Screw Shaft, diameter

*4 3/4"*

as per Rule

Is the

shaft fitted with a continuous liner

*YES*

as fitted

*4 3/4"**APPROVED*

Bronze Liners, thickness in way of bushes

*13/16"*

as per Rule

Thickness between bushes

*13/16"*

as per Rule

Is the after end of the liner made watertight in the

*YES*

propeller boss

*YES**APPROVED*

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

*YES*

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

shaft

*YES*

If so, state type

*5-6"*

Length of Bearing in Stern Bush next to and supporting propeller

*5-6"*

Propeller, dia.

*17-6"*

Pitch

*15-6"*

No. of blades

*4*

Material

*BRONZE*

whether Moveable

*NO*

Total Developed Surface

*96*

sq. feet

*APPROVED*

Method of reversing Engines

*COMPRESSED AIR*

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

*YES*

Means of lubrication

*FORCED*

Thickness of cylinder liners

*REINFORCED*

Are the cylinders fitted with safety valves

*YES*

Are the exhaust pipes and silencers water cooled or lagged with

*YES*

non-conducting material

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.

*2*

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.

*1*

Diameter

*2 1/2"*

Stroke

*10"*

Can one be overhauled while the other is at work

*YES*

Pumps connected to the Main Bilge Line

*1*

No. and Size

*1 1/2"*

How driven

*STEAM*

Lubricating Oil Pumps, including Spare Pump, No. and size

*2 1/2"*

Are two independent means arranged for circulating water through the Oil Cooler

*YES*

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

*YES*

Pumps, No. and size:—In Machinery Spaces

*3 1/2"*

In Holds, &amp;c.

*FORE HOLD 2 1/2"**FORE PEAK FLAT 1 1/2"*

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

*1 1/2"**1 1/2"*

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

*YES*

Are the Bilge Suctions in the Machinery Spaces

*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

*YES*

How are they protected

*YES*

Have they been tested as per Rule

*YES*

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

*YES*

Is it fitted with a watertight door

*YES*

worked from

*YES*

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

*YES*

Main Air Compressors, No.

*2*

No. of stages

*3*

Diameters

*1 1/2" x 9 1/4" x 2 1/4"*

Stroke

*7"*

Driven by

*STEAM CY 13 1/2 HP*

Auxiliary Air Compressors, No.

*1*

No. of stages

*3*

Diameters

*1 1/2" x 9 1/4" x 2 1/4"*

Stroke

*7"*

Driven by

*MAIN ENGINE*

Small Auxiliary Air Compressors, No.

*1*

No. of stages

*3*

Diameters

*1 1/2" x 9 1/4" x 2 1/4"*

Stroke

*7"*

Driven by

*MAIN ENGINE*

Scavenging Air Pumps, No.

*1*

Diameter

*19 1/2"*

Stroke

*6 1/2"*

Driven by

*MAIN ENGINE*

Auxiliary Engines crank shafts, diameter

*19 1/2"*

as per Rule

*19 1/2"*

as fitted

*19 1/2"*

Position

*ENGINE ROOM PLATFORM*

AIR RECEIVERS:—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*

High Pressure Air Receivers, No.

*2*

Cubic capacity of each

*220 CUB FT*

Internal diameter

*3-6"*

thickness

*1"*

Working pressure

*600 LBS*

Material

*STEEL*

Range of tensile strength

*28 TO 32 TONS*

Working pressure

*600 LBS*

less, lap welded or riveted longitudinal joint

*RIVETTED*

Material

*STEEL*

Range of tensile strength

*28 TO 32 TONS*

Working pressure

*600 LBS*

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less, lap welded or riveted longitudinal joint

*RIVETTED*

Material

*STEEL*

Range of tensile strength

*28 TO 32 TONS*

Working pressure

*600 LBS*

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*  
(If not, state date of approval)Receivers *NO DUP OF*Separate Tanks *NO**M.S. BRITISH GLORY*Donkey Boilers *YES*General Pumping Arrangements *SEE N.C. RPT*Oil Fuel Burning Arrangements *NO* *To*

## SPARE GEAR.

Has the spare gear required by the Rules been supplied *YES*State the principal additional spare gear supplied *1 cylinder liner, 2 spur wheels, 1 bevel wheel for camshaft drive, 1 spare tail end shaft, 1 C.I. Propeller*

The foregoing is a correct description.

*J. H. Miller*

Manufacturer.

Dates of Survey while building

During progress of work in shops --	30. May, 6. Sep. 4. Oct. 2. 6. 7. 9. 14. 17. 20. 21. 22. 23. 24. 27. 28. 29.	Nov. 3. 4. 6. 11. 12. 13. 18. 19. 20. 21. 24. 27.
During erection on board vessel --	Dec. 1. 2. 3. 4. 5. 8. 9. 10. 12. 15. 19. 24. 29. 31.	Jan. 5. 7. 8. 9. 27.
Total No. of visits	48	

Dates of Examination of principal parts—Cylinders *27/10/30* JACOBS *24/10/30* Pistons *3/6/30* Rods *21/10/30* Connecting rods *9/10/30*

Crank shaft *11/11/30* Flywheel shaft *23/10/30* Thrust shaft *23/10/30* Intermediate shafts *12/11/30* Tube shaft *—*

Screw shaft *13/11/30* SPARE. *17/10/30* Propeller *17/10/30* Stern tube *29/10/30* Engine seatings *9/12/30* Engines holding down bolts *31/12/30*

Completion of fitting sea connections *27/1/31* Completion of pumping arrangements *27/1/31* Engines tried under working conditions *27/1/31*

Crank shaft, Material *I-STEEL* Identification Mark *2991* Flywheel shaft, Material *I-STEEL* Identification Mark *—*

Thrust shaft, Material *I-STEEL* Identification Mark *3655* Intermediate shafts, Material *I-STEEL* Identification Marks *4136*

Tube shaft, Material *I-STEEL* Identification Mark *—* Screw shaft, Material *I-STEEL* Identification Mark *4156 SPARE*

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*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 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 built under special license & the materials & workmanship are good. On completion the machinery was tried under full working conditions with satisfactory results. The machinery throughout is now in a good & efficient condition & eligible in my opinion to have the record LMC-1-31 marked in the British Register Book.*

*The donkey boilers are also fitted to burn oil fuel F.P. above 150°F & the requirements of the Rules (Section 20) fully complied with.*

The amount of Entry Fee .. £ *6* : ..

Special .. £ *109* : *7*

Donkey Boiler Fee .. £ *4* : *4*

Travelling Expenses (if any) £ : : *3/2/1931*

When applied for,

*28 JAN 1931*

When received,

*3/2/1931*

Committee's Minute

Assigned

TUE. 10 FEB 1931

*+ Lmb. 1.31 Cl. 20.0. 1500*

*oil inf.*

CERTIFICATE WRITTEN

Engineer Surveyor to Lloyd's Register of Shipping.

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