

Rpt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 32532  
NOV 25 1938

Received at London Office

Date of writing Report

19

When handed in at Local Office

24 NOV. 1938 Port of

Sunderland

No. in Survey held at  
Reg. Book.

Sunderland

Date, First Survey 5 July 1938 Last Survey 21<sup>st</sup> Nov 1938

Number of Visits 53

Single  
Twin  
Triple  
Quadruple  
Screw vessel

"TENACITY  
BRITISH INFLUENCE"

Tons  
Gross 8439  
Net 4855

Built at

Waltham-on-Tyne

By whom built

Swan Hunter, Higham, Richmond

Yard No. 1592

When built 1939-2

Engines made at

Sunderland

By whom made

Wm Beardmore & Co. Ltd

Engine No. 204

When made 1938.

Donkey Boilers made at

By whom made

Boiler No.

When made

Brake Horse Power 2850

Owners

British Tanker Co. Ltd

Port belonging to LONDON.

Nom. Horse Power as per Rule 684

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which vessel is intended

23<sup>5</sup>/<sub>8</sub>

9<sup>5</sup>/<sub>16</sub>

OIL ENGINES, &c.—Type of Engines *Opposed piston airless injection 2 or 4 stroke cycle 2* Single or double acting *Single*

Maximum pressure in cylinders *5 1/2 lbs/sq. in.* Diameter of cylinders *600 mm* Length of stroke *Upper 980 mm Lower 1340 mm* No. of cylinders *4* No. of cranks *4 (3 strokes)*

Mean Indicated Pressure *8 1/2 lbs/sq. in.* Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *940 mm* Is there a bearing between each crank *Between each 3 shafts*

Revolutions per minute *94* Flywheel dia. *2050 mm* Weight *62 cwt* Means of ignition *Compression* Kind of fuel used *Tempur*

Crank Shaft, dia. of journals *as per Rule 425 mm* Crank pin dia. *450 mm* Crank Webs *Mid. length breadth 650 mm Thickness parallel to axis 255 mm*

Flywheel Shaft, diameter *as per Rule 425 mm* Intermediate Shafts, diameter *as per Rule 450 mm* Thrust Shaft, diameter at collars *as per Rule 425 mm*

Tube Shaft, diameter *as per Rule* Screw Shaft, diameter *as per Rule* Is the tube screw shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes *as per Rule* Thickness between bushes *as per Rule* Is the after end of the liner made watertight in the

propeller boss *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 *If so, state type* Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

Method of reversing Engines *Hand lever* Is a governor or other arrangement fitted to prevent racing of the engine when de-clutched *Yes* Means of lubrication

and faced *Thickness of cylinder liners 25 mm* Are the cylinders fitted with safety valves *Yes* Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material *Yes* *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. *one main engine driven* 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 How driven

Is the cooling water led to the bilges *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 Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size *one main engine driven 100 mm x 610 mm*

Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces In Pump Room

In Holds, &c.

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

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

Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Are the Overboard Discharges above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes pass through the bunkers 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

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 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. No. of stages Diameters Stroke Driven by

Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Scavenging Air Pumps, No. *one* Diameter *1960 mm* Stroke *610 mm* Driven by *Revers from main engine.*

Auxiliary Engines crank shafts, diameter *as per Rule* No. Position



AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule.

Can the internal surfaces of the receivers be examined and cleaned. Is a drain fitted at the lowest part of each receiver

High Pressure Air Receivers, No. 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. Total cubic capacity Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint. Material Range of tensile strength Working pressure by Rules Actual

IS A DONKEY BOILER FITTED? If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting Receivers Separate Fuel Tanks

Donkey Boilers General Pumping Arrangements Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes (No latest requirements)

State the principal additional spare gear supplied One Cylinder liner & jacket Complete, one starting air non-ret

Value, one Cylinder relief valve Complete, 4 Scavenge pump Suct. & del. valve half discs, 2 fu Pump bodies Complete, with Suct. & del. valves, one intermediate Crosshead with Stud bell crank lever & suction tappet for fuel pump, four fuel valves Complete, one main piston head, one upper & one lower piston skirt, one roller chain for camshaft drive

The foregoing is a correct description.

WILLIAM DOXFORD & SONS, Limited. J. H. Keller

Manufacturer.

Dates of Survey while building During progress of work in shops-- 1938 July 5, 7, 8, 15, 19, 20, 22 Aug. 2, 3, 5, 8, 9, 10, 12, 15, 18, 24, 29, 30 Sep. 7, 8, 9, 19, 21, 23, 26, 27, 29

During erection on board vessel-- Oct. 4, 11, 12, 13, 19, 20, 21, 24, 25, 27, 28, 31 Nov. 1, 2, 3, 4, 8, 9, 10, 11, 14, 16, 17, 18, 21

Total No. of visits 53

Dates of Examination of principal parts—Cylinders 5/8/38 10/9/38 Covers Pistons 8/11/38 9/11/38 8/11/38 9/11/38 31/10/38 Connecting rods 4/11/38

Crank shaft 19/10/38 Flywheel shaft as crank. Thrust shaft as crank. Intermediate shafts Tube shaft

Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts

Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions

Crank shaft, Material Ingot Steel Identification Mark nos 1762, 1761, 1763 V.S. 4/10/38 Flywheel shaft, Material as crank. Identification Mark as crank.

Thrust shaft, Material as crank Identification Mark as crank. Intermediate shafts, Material Identification Marks

Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark

Is the flash point of the oil to be used over 150° F.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with

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 Yes. If so, state name of vessel M/V "BRITISH FAME" etc.

General Remarks (State quality of workmanship, opinions as to class, &c.) This machinery has been built under Special Survey in accordance with the Rules of the Society & the Secretary's letters.

The materials & workmanship are good.

The engine has been tried under full load conditions on the test bed with satisfactory results & has been despatched to Messrs Swan Hunter & Whigham Richardson & Co. Ltd. Wallsend. n. Tyne for installation on board the vessel, after which it will be eligible, in my opinion to have notation 150° H.M.C. (with date) oil eng.

The engine has been satisfactorily fitted on board M.V. British Tenacity (yard no 1592). A. Watt Newcastle on Tyne

The amount of Entry Fee £ 6 : - : 4/5 Special £ 84 : 10 : 2 Donkey Boiler Fee £ 12 : 12 : Travelling Expenses (if any) £ :

When applied for, 4 NOV. 1938

When received, 14 Dec 1938

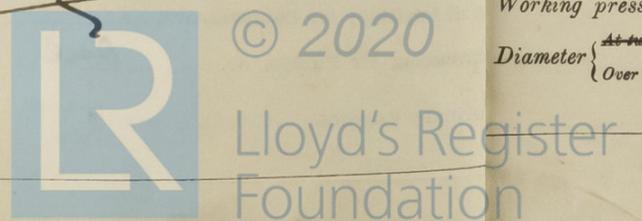
J. H. Keller Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 28 FEB 1939

Assigned

See NWC. 76 97170



SUNDERLAND. Certificate (if required) to be sent to

PILLAR, WIN Centre, Stiffe, Platin, STRINGI Upper, String, Thick in, Thick in, Thick, If Sh, Second String, STR., FLAT PLAT, BOTTOM P of Strak, BILGE PLA Strakes, SIDE PLAT Strakes, UPPER DE strake in, UPPER DE strake in, STRAKE BE strake in, STRAKE BE strake in, POOP SIDE, BRIDGE SII, FOREC'TLE, Total No., MIDSHII, COLLISIO, AFTER P, STEEL.

Rpt. 5a. Date of writing Re. No. in Survey Reg. Book. on th. Master. Engines made a. Boilers made at. Nominal Horse. MULTITU. Manufacturers. Total Heating. No. and Descri. Tested by hydr. Area of Firegr. Area of each s. In case of donk. Smallest distan. Smallest distan. Largest interna. Thickness. long. seams. T. Percentage of. Percentage of. Thickness of b. Material. S. Length of plai. Dimensions of. End plates in. How are stays. Tube plates: Mean pitch of. Girders to con. at centre. 7. in each tur. Tensile strengt. Pitch of stays t. Working press. Thickness. Pitch of stays. Working Press. Diameter. Over. Working press. Diameter. Over.