

REPORT ON OIL ENGINE MACHINERY.

No. 95139

JUN 14 1937

Received at London Office
NEWCASTLE-ON-TYNE

Date of writing Report 12/6/37 When handed in at Local Office Port of Newcastle-on-Tyne
Date, First Survey 16/7/36 Last Survey 9/6/1937
Number of Visits 49

No. in Survey held at Newcastle on Tyne Reg. Book. on the Single Screw vessel **"BRITISH DILIGENCE"** Tons Gross 8297 Net 4935

Built at Newcastle on Tyne (Walker) By whom built Swan, Hunter & Wigham Richardson, Ltd. Yard No. 1508 When built 1937
Engines made at Sunderland By whom made Wm. Daxford & Sons, Ltd. Engine No. 197 When made 1937
Donkey Boilers made at Newcastle on Tyne By whom made Swan, Hunter & Wigham Richardson, Ltd. Boiler No. 1508 When made 1937
Brake Horse Power 2850 Owners British Tanker Co Port belonging to LONDON.
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 ocean going - carrying petroleum in bulk. 23 5/8" - 9 1/2"

OIL ENGINES, &c. Type of Engines Daxford - opposed piston Oil Engines 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 40 Kg/cm² Diameter of cylinders 600 mm Length of stroke upper 1340 mm lower 980 mm No. of cylinders 4 No. of cranks 4 three throw

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge See also SUNDERLAND RPT No 32077 here a bearing between each crank ✓

Revolutions per minute 97 Flywheel dia. FOR 2050 mm AFT 2450 mm Weight A 88 cwt Means of ignition Compression Kind of fuel used Heavy oil fuel

Crank Shaft, dia. of journals as per Rule ✓ as fitted ✓ Crank pin dia. ✓ Crank Webs Mid. length breadth ✓ Mid. length thickness ✓ Thickness parallel to axis shrunk ✓ Thickness around eye-hole ✓

Flywheel Shaft, diameter as per Rule ✓ as fitted ✓ Intermediate Shafts, diameter as per Rule 12.85" as fitted 16 1/2" Thrust Shaft, diameter at collars as per Rule ✓ as fitted ✓

Tube Shaft, diameter as per Rule ✓ as fitted ✓ Screw Shaft, diameter as per Rule 14.24" as fitted 16 1/2" Is the main shaft fitted with a continuous liner YES ✓

Bronze Liners, thickness in way of bushes as per Rule 23 5/32" as fitted 13/16" Thickness between bushes as per rule 9/16" as fitted 3/4" 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 in one length ✓

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 tight fit ✓

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 yes ✓ If so, state type various Length of Bearing in Stern Bush next to and supporting propeller 5'6 1/2" ✓

Propeller, dia. 16'9" Pitch 12.86 max No. of blades 4 Material Mang. Bronze whether Moveable No Total Developed Surface 91 sq. feet

Method of reversing Engines Hand forced Is a governor or other arrangement fitted to prevent racing of the engine yes ✓ Means of lubrication led up funnel ✓

Thickness of cylinder liners ✓ 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 yes ✓

Cooling Water Pumps, No. 1 main Eng. + 1 Stand-by Steam Is the sea suction provided with an efficient strainer which can be cleared without the vessel yes ✓

What special arrangements are made for dealing with cooling water if discharged into bilges discharge overboard ✓

Bilge Pumps worked from the Main Engines, No. None Diameter 10" x 12" x 10" Stroke 180 tons/hr Can one be overhauled while the other is at work yes ✓

Pumps connected to the Main Bilge Line } How driven duplex Steam driven No. and size 2 of 7" x 8" x 8" 100 tons/hr ✓

Ballast Pumps, No. and size one 10" x 12" x 10" aft in E.R. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size one 8" x 7" x 18" Stand-by steam ✓

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 of 3 1/2" also 1 of 2 1/2" in E.R. Coppertan + 2 of 2 1/2" in Ford oil gutter In Pump Room FOR 2 of 4" MID 2 of 4" ✓

In Holds, &c. In Ford Cargo Hold 2 of 2 1/2" and 2 of 2" ✓

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 of 6" ✓

Are all the Bilge Suction pipes in Hold yes ✓ 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 yes, 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 both ✓

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 yes ✓

What pipes pass through the deep tanks none ✓ 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. None Airless Injection No. of stages 3 Diameters 11 1/2" to 2 3/4" Stroke 7 Driven by Steam Engines ✓

Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters See Glasgow Certy to C.32339 Driven by main Eng ✓

Small Auxiliary Air Compressors, No. 1 No. of stages 3 Diameters See Sunderland Rpt no 32077 Driven by Levers from main Eng ✓

Scavenging Air Pumps, No. one Diameter 3 of 1-30 KW oil Eng Dyno Set Position all on starboard in E.R. ✓

Auxiliary Engines crank shafts, diameter as per Rule yes ✓ as fitted yes ✓

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. None (Airless Injection) Public capacity of each 280 cub. ft Internal diameter 4' 1 1/2" thickness 1 3/32" ✓

Seamless, lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength 29-33 tons Working pressure Actual 602 lbs/sq by Rules 600 lbs/sq ✓

Starting Air Receivers, No. 2 Total cubic capacity 280 cub. ft Internal diameter 4' 1 1/2" thickness 1 3/32" Working pressure Actual 600 lbs/sq by Rules 600 lbs/sq ✓

Seamless, lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength 29-33 tons Working pressure Actual 600 lbs/sq by Rules 600 lbs/sq ✓

004755-004760-0133

Lloyd's Register Foundation

IS A DONKEY BOILER FITTED? *Yes. Two Boilers* If so, is a report now forwarded? *Yes.*

Is the donkey boiler intended to be used for domestic purposes only? *No. For Amny machy etc.*

PLANS. Are approved plans forwarded herewith for Shafting *14/4/36* Receivers *14/4/36* Separate Tanks *14/4/36*
Donkey Boilers *14/4/36* General Pumping Arrangements *11/3/36* for *1498-British Fame* Oil Fuel Burning Arrangements
PROC 24/4/36

SPARE GEAR.

Has the spare gear required by the Rules been supplied? *Yes.*

State the principal additional spare gear supplied *1 set of ahead thrust pads, 1-6 feed T&K lubricator for Cylinders, 1 Solid Cast Iron Propeller, 1 Screw Shaft complete with nut, 2 spare feed check valve lids, 12 boiler tubes, 1 safety valve spring, 1 set of cages for feed water filters, 1 nest of tubes for distilled water cooler, 1 nest of tubes for oil cooler, 1 set of cages or strainers for forced lubrication filters*

The foregoing is a correct description of the machinery described above.

G.F. Stewart
DIRECTOR

Manufacturer.

Dates of Survey while building
During progress of work in shops - *1936 July 16, Aug. 25, 28, Sep. 3, 4, 10, 30, Oct. 5, 15, 16, 27, Nov. 2, 11, 20, 28, Dec. 1, 3, 1937*
During erection on board vessel - *15, 16, 18, 31, Jan. 8, 11, 25, 28, 29, Feb. 5, 11, 17, 18, 19, 22, 25, Mar. 5, 11, 15, 22, 24, Apr. 1, 26, 27, May 7, 14, 1937*
Total No. of visits *49.*

Dates of Examination of principal parts - Cylinders *See Sunderland Rpt No 32077.* Covers *29/1/37* Pistons *29/1/37* Rods *29/1/37* Connecting rods *29/1/37*
Crank shaft Flywheel shaft Thrust shaft Intermediate shafts *29/1/37* Tube shaft
Screw shaft *29/1/37* Propeller *22/2/37* Stern tube *28/11/36* Engine seatings *20/5/37* Engines holding down bolts *20/5/37*
Completion of fitting sea connections *22/2/37* Completion of pumping arrangements *2/6/37* Engines tried under working conditions *9/6/37*
Crank shaft, Material Identification Mark Flywheel shaft, Material Identification Mark
Thrust shaft, Material Identification Mark Intermediate shafts, Material *F. Steel* Identification Marks *LLOYDS N°5 6639 HAI 340 & 341*
Tube shaft, Material Identification Mark Screw shaft, Material *F. Steel* Identification Mark *6639 HAI 343 & 384*

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

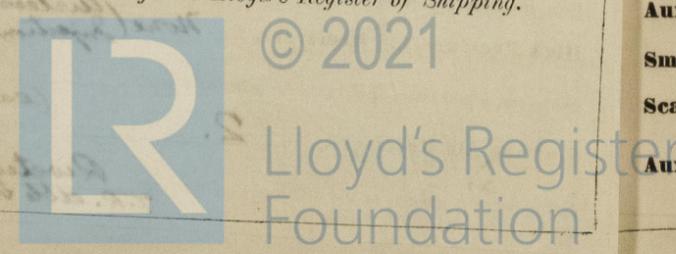
Is this machinery duplicate of a previous case? *Yes* If so, state name of vessel *British Fame, MOC Rpt 94124*
British Endurance " " 94275.

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, and the materials and workmanship are good. The machinery has been satisfactorily installed on board & tried under working conditions, and the vessel is eligible in my opinion for record + LMC. 6.37. T.S. cl. 2. DB. 150 lbs.

Sunderland

The amount of Entry Fee .. £
Special *1/5th installly* £ *21* : *17* : *11* : *2 JUN 1937*
2 Donkey Boilers Fee *17-6-0* £ *27* : *8* : *18-6-37*
2 Starting Air Pipes *10-2-0* £ *4* : *4* : *19/6*
Travelling Expenses (if any) £ *4* : *4* : *18-6-37*
When applied for, *2 JUN 1937*
When received, *18-6-37*
FRI 18 JUN 1937

A. Watt
Engineer Surveyor to Lloyd's Register of Shipping.



Committee's Minute
Assigned *+ LMC 6.37*
Oil fuel cl.
2 DB. - 150 lbs