

## REPORT ON OIL ENGINE MACHINERY.

No. 95139

JUN 14 1937

Received at London Office  
NEWCASTLE-ON-TYNE

Date of writing Report

When handed in at Local Office

12/6/37 Port of

Date, First Survey

16/7/36

Last Survey

9/6/37

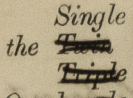
1937

No. in Survey held at  
Reg. Book.

Newcastle on Tyne

Number of Visits

49

on the  Single  
Triple  
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/cm<sup>2</sup> 570 lbs/sq. in.* Diameter of cylinders *600 mm* Length of stroke *upper 1340 mm lower 980 mm* No. of cylinders 4 No. of cranks *4 three throw*  
Mean indicated pressure *84 lbs/sq. in.* Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *See also SUNDERLAND RPT No 32077*  
Revolutions per minute *97* Flywheel dia. *Ford 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* Crank pin dia. *as per Rule* Crank Webs *as per Rule* Thickness parallel to axis *as per Rule*  
Flywheel Shaft, diameter *as per Rule* Intermediate Shafts, diameter *as per Rule* Thrust Shaft, diameter at collars *as per Rule*  
Tube Shaft, diameter *as per Rule* Screw Shaft, diameter *as per Rule* Is the *shaft* fitted with a continuous liner *YES.*  
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 *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 *✓* If so, state type *✓* Length of Bearing in Stern Bush next to and supporting propeller *5'6 1/2"*  
Propeller, dia. *16'9"* Pitch *12'8 1/2" 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 *✓* Means of lubrication *✓*  
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*  
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 *✓*  
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 *Stroke* Can one be overhauled while the other is at work *✓*  
Pumps connected to the Main Bilge Line *How driven* *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*  
Ballast Pumps, No. and size *one 8" x 8" x 10" in Ford Hold. Pump Room.* Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge *✓*  
Are two independent means arranged for circulating water through the Oil Cooler *Yes* *See Glasgow Cert No C.32339*  
Pumps, No. and size:—In Machinery Spaces *3 g 3 1/2" also 1 g 2 1/2" in E.R. Cofferdam + 2 g 2 1/2" in Ford oil gutterway.* In Pump Room *Ford 2 g 4 1/2" MID 2 g 4"*  
In Holds, &c. *In Ford Cargo Hold 2 g 2 1/2" and 2 g 2."*  
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *2 g 6"*  
Are all the Bilge Suction pipes in Hold *and Tunnel Well* fitted with strum-boxes *Yes* Are the Bilge Suctions in the Machinery Spaces *Yes*  
Are they fitted with Valves or Cocks *Yes, both.*  
Are all Sea Connections fitted direct on the skin of the ship *Yes* Are the Overboard Discharges above or below the deep water line *both.*  
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates *Yes* Are the Blow Off Cocks fitted with a spigot and brass covering plate *Yes*  
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel *Yes* How are they protected *✓*  
What pipes pass through the bunkers *None* Have they been tested as per Rule *✓*  
What pipes pass through the deep tanks *None* 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 *✓* 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.* Airless Injection *✓* Diameters *Stroke* Driven by *Steam Engines.*  
Auxiliary Air Compressors, No. *2.* No. of stages *3* Diameters *1 1/2" to 2 3/4"* Stroke *7* *See Glasgow Cert No C.32339*  
Small Auxiliary Air Compressors, No. *✓* No. of stages *✓* Diameters *Stroke* Driven by *✓*  
Scavenging Air Pumps, No. *one* Diameter *See Sunderland Rpt No 32077.* Driven by *Levers from main Eng*  
Auxiliary Engines crank shafts, diameter *as per Rule* No. *3 g 1-30 KW oil Eng Dyno Set. } all on Starboard in E.R.*  
Position *1-8 KW Steam Lighting Set*

**AIR RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes* Is a drain fitted at the lowest part of each receiver *Yes*  
Can the internal surfaces of the receivers be examined and cleaned *Yes* Internal diameter *thickness*  
High Pressure Air Receivers, No. *None (Airless Injection)* Cubic capacity of each *Internal diameter* Working pressure *Actual*  
Seamless, lap welded or riveted longitudinal joint *Material (each 140 cu ft)* Range of tensile strength *Working pressure*  
Starting Air Receivers, No. *2.* Total cubic capacity *280 cu. 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 *by Rules 602 lbs/sq. in. Actual 600 lbs/sq. in.*

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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 Any machinery etc.*

PLANS. Are approved plans forwarded herewith for Shafting *14/4/36* Receivers *14/4/36* Separate Tanks *14/4/36*  
(If not, state date of approval) 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.

*G. F. Stewart*

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.*  
During erection on board vessel - *1937 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.*  
Total No. of visits *49.*

Dates of Examination of principal parts—Cylinders *See Sunderland Rpt No 32077.* Covers *✓* Pistons *✓* Rods *✓* Connecting rods *✓*  
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.*  
Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *F. Steel* Identification Mark *6639 HAI 340 + 341 343 + 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. TS. cl. 2. DBhs. 150 lbs.*

The amount of Entry Fee .. £ *✓* When applied for.

Special *1/5<sup>th</sup> install* £ *21: 17: 11* 2 JUN 1937

2 Donkey Boilers Fee *17-6-0* £ *27: 8: 1* When received.

2 Starting Air Pipes £ *10-2-0* £ *4: 4: 18-6-37* 19/6

Travelling Expenses (if any) £ *4: 4: 18-6-37* FRI 18 JUN 1937

Committee's Minute

Assigned

*+ LMC 6.37*

*Oil Eng Cl.*

*2 DB. - 150 lbs*

*A. Watt*

Engineer Surveyor to Lloyd's Register of Shipping.



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