

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 97170

FEB 17 1939

Received at London Office

Date of writing Report 10 When handed in at Local Office 16/2/39 Port of **NEWCASTLE-ON-TYNE**
No. in Survey held at Date, First Survey 27 July 37 Last Survey 15 Feb 1939
Reg. Book. Number of Visits 82

on the Single Twin Triple Quadruple Screw vessel **"BRITISH TENACITY"** Tons ^{Gross} 8439 _{Net} 4855
Built at Newcastle on Tyne By whom built Swan, Hunter & Wigham Richardson Ltd Yard No. 1592 When built 1939-2
Engines made at Sunderland By whom made Wm Duxford & Sons Ltd Engine No. 207 When made 1939
Donkey Boilers made at Newcastle By whom made Swan Hunter & W.R. Ltd Boiler No. 1592 When made 1939
Brake Horse Power 2850 Owners British Tanker Co Ltd 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

OIL ENGINES, &c. Type of Engines Direct Opposed piston See Sunderland Rpt No 32532 2 or 4 stroke cycle 2 Single or double acting Single
Maximum pressure in cylinders 570 lb/sq in Diameter of cylinders 600 mm Length of stroke upper 980 mm lower 1340 mm No. of cylinders 4 No. of cranks 4-three throw
Mean Indicated Pressure 84 lb/sq in Span of bearings, adjacent to the Crank, measured from inner edge to inner edge Yes Is there a bearing between each crank Yes
Revolutions per minute 97 Flywheel dia. 70 in Weight 12.85 Means of ignition Compression Kind of fuel used Heavy oil fuel
Crank Shaft, dia. of journals as per Rule Crank pin dia. as fitted Crank Webs as per Rule Mid. length breadth shrunk Thickness parallel to axis as fitted Thickness around eye-hole as fitted
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 tube 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 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 Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft No If so, state type flaring 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 brass whether Moveable No Total Developed Surface 91 sq. feet
Method of reversing Engines Compressed air Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes Means of lubrication hand forced
Thickness of cylinder liners as per Rule 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 led up funnel
Cooling Water Pumps, No. 1 Main Engine driven Is the sea suction provided with an efficient strainer which can be cleared within the vessel used on M. Engine
Bilge Pumps worked from the Main Engines, No. None Diameter 10" x 12" x 10" V. duplex Stroke 180 tons/hr Can one be overhauled while the other is at work Yes
Pumps connected to the Main Bilge Line No. and Size one 10" x 12" x 10" V. duplex all Steam driven
Is the cooling water led to the bilges discharges overboard If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements one 10" x 12" x 10" V. duplex
Ballast Pumps, No. and size one 8" x 8" x 10" V. duplex Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size one 14" x 10" x 610 mm
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 1-2 1/2" from ER Cofferdam + 2-2 1/2" from forward gutterway In Pump Room 2 of 4" mid 2 of 4"
In Holds, &c. In forward cargo hold 2 of 2 1/2" + 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 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 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 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 Yes

Main Air Compressors, No. Arless injection No. of stages 3 Diameters 11 1/2-2 1/4" Stroke 7" Driven by Steam Eng.
Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 11 1/2-9 1/4" Stroke 7" Driven by See Glasgow Cert C. 37317
Small Auxiliary Air Compressors, No. None No. of stages — Diameters — Stroke — Driven by —
Scavenging Air Pumps, No. One Diameter — Stroke — Driven by —
Auxiliary Engines crank shafts, diameter as per Rule No. one 30 Kw Oil Engine Dyno Set Position all in E.Rm
one 30 Kw Steam Dyno Set one 8 Kw Steam Dyno Set on Sth Side

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 Gasless Injection 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

280 cub ft

Internal diameter

4'-1 1/2"

thickness

1 3/32"

Seamless, lap welded or riveted longitudinal joint T.R. Stel

Material

Range of tensile strength

Working pressure by Rules

Actual

IS A DONKEY BOILER FITTED? Yes Two

If so, are reports forwarded? Yes

Is the donkey boiler intended to be used for domestic purposes only No For Steam Auxiliaries etc

No.

3/6/37

Receivers

10/1/36 for 1498 (British Fame)

Separate Fuel Tanks

7/3/38 for 1498

PLANS. Are approved plans forwarded herewith for Shafting

(If not, state date of approval)

15/1/35 & 23/1/35

Donkey Boilers for British Fame

General Pumping Arrangements

24/4/36 for 1498

Pumping Arrangements in Machinery Space

11/3/38 for 1498

Oil Fuel Burning Arrangements ✓

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 C.I. propeller,

1 screw shaft complete with nut, 2 feed check 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

FOR SWAN, HUNTER, & CO. LTD.

G. J. Sturdy

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1937 July 27. Dec. 20. 1938 Jan. 10. Mar. 23. Apr. 11. 20. 26. July 7. Sep. 8. 12. 14. 26. 27. Oct. 4. 5. 7. 11. 12. 18. 20. 24. 27. 31. 7. 1939 7. 8. 9. 11. 15. 16. 18. 19. 21. 22. 23. 24. 25. 28. 29. 30. Dec. 1. 2. 6. 7. 8. 9. 12. 13. 16. 19. 20. 21. 22. 23. 28. 29. 1939 Jan. 4. 10. 18.
During erection on board vessel -- 19. 23. 24. 25. 26. 27. 30. Feb. 1. 3. 6. 7. 8. 9. 10. 13. 14. 15.
Total No. of visits 82.

Dates of Examination of principal parts—Cylinders ✓ See Sunderland Rpt no 32532
Covers Pistons Rods Connecting rods
Crank shaft ✓ Flywheel shaft ✓ Thrust shaft ✓ Intermediate shafts 25/11/38 Tube shaft ✓
Screw shaft 24/10/38 Propeller 28/11/38 Stern tube 24/11/38 Engine seatings 24/11/38 Engines holding down bolts 4/1/39
Completion of fitting sea connections 7/12/38 Completion of pumping arrangements 7/2/39 Engines tried under working conditions AT WHARF 7/2/39. AT SEA 15/2/39.
Crank shaft, Material Forged Steel Identification Mark ✓ Flywheel shaft, Material ✓ Identification Mark ✓
Thrust shaft, Material ✓ Identification Mark ✓ Intermediate shafts, Material 7-Steel Identification Marks 7873 HAI.
Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material 7 Steel Identification Mark 7873 HAI

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. Yard no 1498-ct. Two. Rpt 94124.

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, tested under working conditions, and the vessel is eligible in my opinion for records + LMC 2.39, T.S. cl. 2 D.B. 150th. WP.

The amount of Entry Fee .. £ .. : When applied for, 16 FEB 1939
Special 1/4 (installing) 21: 17:
2 Donkey Boilers Fee 10-2-0 £ 24: 2:
2 Starting Air Receivers £ 4: 4:
Travelling Expenses (if any) 11. 3. 19. 39

Committee's Minute

Assigned + LMC 2.39
2 D.B. - 150th
oil fuel, etc.

A. Watt.

Engineer Surveyor to Lloyd's Register of Shipping.



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