

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 32560

JAN 18 1939

Received at London Office

Date of writing Report 19 When handed in at Local Office 16 Jan 1939 Port of Sunderland.
No. in Survey held at Sunderland Date, First Survey 11 Jan '38 Last Survey 14 Jan 1939.
Reg. Book. Number of Visits 87
on the Single Screw vessel **"BRITISH GENIUS"** Tons Gross 8553 Net 4961
Built at Sunderland By whom built Wm. Leasford & Sons Ltd. Yard No. 644 When built 1939
Engines made at Sunderland By whom made Wm. Leasford & Sons Ltd. Engine No. 644 When made 1939.
Donkey Boilers made at Stockton By whom made Stockton Blm. Eng. & Ship Bldg. Co. Ltd. Boiler No. 6293 When made 1938.
Boiler No. 6294
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 2358 915

OIL ENGINES, &c. Type of Engines Opposed piston airless injection or 4 stroke cycle 2 Single or double acting Single
Maximum pressure in cylinders 540 lbs/sq. in. Diameter of cylinders 600 in. Length of stroke Upper 980 in. No. of cylinders 4 No. of cranks 4 (3 throw)
Mean Indicated Pressure 84 lbs/sq. in. Lower 1340 in.
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 940 in. Is there a bearing between each crank Between each 3 throw
Revolutions per minute 94 Flywheel dia. 2050 in. Weight 62 cwt. Means of ignition Compression Kind of fuel used Temp.
Crank Shaft, dia. of journals as fitted 425 in. Crank pin dia. 450 in. Crank Webs as fitted 326 in. Mid. length breadth 650 in. Thickness parallel to axis 255 in.
Flywheel Shaft, diameter as fitted 450 in. Intermediate Shafts, diameter as fitted 430 in. Thrust Shaft, diameter at collars as fitted 450 in.
Tube Shaft, diameter as per Rule 361.5 Screw Shaft, diameter as fitted 430 in. Is the tube shaft fitted with a continuous liner Yes.
Bronze Liners, thickness in way of bushes as per Rule 18.6 in. Thickness between bushes as per rule 14 in. 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 Yes.
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. Length of Bearing in Stern Bush next to and supporting propeller 5'-8"
Propeller, dia. 16'-9" Pitch 12'-3" No. of blades 4 Material Bronze whether Moveable no. Total Developed Surface 99.8 sq. feet
Method of reversing Engines Hand lever Is a governor or other arrangement fitted to prevent racing of the engine when disconnected Yes. Means of lubrication Hand forced
Thickness of cylinder liners 25 in. Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes.
Cooling Water Pumps, No. one engine driven 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. none Diameter 1 @ 10" x 12" x 10" duplex Stroke 2 @ 4" x 8" x 8" duplex. Can one be overhauled while the other is at work Yes.
Pumps connected to the Main Bilge Line { No. and Size 1 @ 10" x 12" x 10" duplex How driven Steam.
Is the cooling water led to the bilges no. If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements Yes.
Ballast Pumps, No. and size 1 @ 10" x 12" x 10" Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size one main engine driven 100 in. x 610 in.
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 one steam driven 4" x 8" x 18"
Pumps, No. and size: In Machinery Spaces 1 @ 8", 2 @ 6", 3 1/2 @ 8" (for 2nd) In Pump Rooms FOR 1 @ 2" MAIN 2 @ 4"
In Holds, &c. (Tanker).
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 8" (Ballast) 2 @ 6" (Bilge Sanitary Pumps)
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.
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 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 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 (Tanker) Is the Shaft Tunnel watertight no tunnel 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 lubricating oil from saturating the woodwork Yes.
Main Air Compressors, No. two No. of stages three Diameters 12 3/4" 10 1/4" 3" Stroke 4" Driven by Steam engine
Auxiliary Air Compressors, No. Yes No. of stages Yes Diameters Yes Stroke Yes Driven by Yes.
Small Auxiliary Air Compressors, No. Yes No. of stages Yes Diameters Yes Stroke Yes Driven by Yes.
Scavenging Air Pumps, No. one Diameter 1960 in. Stroke 610 in. Driven by Levers from main engine.
Auxiliary Engines crank shafts, diameter as per Rule No. Yes Position Yes.

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?

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

PLANS. Are approved plans forwarded herewith for Shafting

(If not, state date of approval)

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

State the principal additional spare gear supplied

One Screw shaft, one Cast iron Propeller, one Cylinder liner & packer, one Starting air return valve complete, one Cyl. relief valve complete, 4 Scavenge pump half discs, 2 fuel pump bodies complete with Suct. & del. valves, one intermediate crosshead with Suct. & del. valves, 1 bell crank lever & Suct. tappet for fuel pump, four fuel valves complete, one main piston head, one upper & lower piston skirt, one roller chain for cam shaft drive, 1 Set each size of valves for main engine & indicator, 1 Set each for Michell block, 8 Spray plugs, 2 (each) top & bottom end bolts for Side & Centre Cam rods, 1 Centre & side Cam rod spherical bearing & 2 Centre & side Cam rod top end bearings.

The foregoing is a correct description,
WILLIAM DOXFORD & SONS, Limited.

Manufacturer.

Dates of Examination of principal parts—Cylinders 38/1 Jan. 11. 18. Apr. 5. 26. May 10. 25. 26. 27. June 3. 8. 9. 15. 16. 17. 21. 22. 24. 29. 30. July 1. 5. 8. 12. 15. 18. 21. 22. Aug 3. 4. 5. 8. 11. 12. 15. 18. 21. 22. 23. 24. 25. 28. 31. During erection on board vessel—17. 22. 26. 31. Sep. 6. 8. 9. 12. 13. 14. 15. 16. 19. 21. 22. 23. 26. 27. 28. 29. 30. Oct. 3. 4. 5. 6. 7. 14. 17. 18. Nov. 2. 14. 17. 18. 21. 22. 23. 24. 25. 28. 31. Dec. 1. 2. 5. 7. 8. 9. 13. 15. 16. 17. 21. 22. 30. 1939. Jan. 3. 4. 5. 14. Total No. of visits 87 11/1/38 18/1/38 22/8/38 26/8/38 22/8/38 26/8/38 Connecting rods 14/9/38 28/9/38

Crank shaft 26/9/38 & Gls. Flywheel shaft as crank. Thrust shaft as crank. Intermediate shafts 18/10/38 Tube shaft 1/12/38. Engines holding down bolts 14/1/39. Engines tried under working conditions 14/1/39. Completion of fitting sea connections 2/11/38 Completion of pumping arrangements 14/1/39. Crank shaft, Material Ingot Steel Identification Mark S.O. 4520 L.C.D. Flywheel shaft, Material as crank. Identification Mark as crank. Thrust shaft, Material as crank Identification Mark as crank. Intermediate shafts, Material Ingot Steel Identification Marks N° 13202 W.N.F. 18/10/31 Tube shaft, Material as crank Identification Mark as crank. Screw shaft, Material Ingot Steel Identification Mark N° 13294 W.N.F. 14/10/31

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 (Tanker.) If so, have the requirements of the Rules been complied with Yes. If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with Not desired. Is this machinery duplicate of a previous case Yes. If so, state name of vessel M/V "BRITISH FAME" YE.

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been built under Special Survey in accordance with the rules of the Society & the Secretaries letters. The materials & workmanship are good. The machinery has been securely fitted on board the vessel & tried under full working conditions at sea, including rule requirements for starting, with satisfactory results. The two donkey boilers have also been securely fixed on board, fitted to burn oil fuel (F.P. above 150°F), Section 20 of the Rules has been complied with, Safety valves of boilers adjusted to working pressure in accordance with rule requirements.

The machinery is reliable in my opinion to have notation 20 L.R.C. 1.39 (oil eng) T.S. (CL) 2 DB 150 lbs/sq.

The amount of Entry Fee .. £ 6 : - : When applied for, 4 JAN 1939
Special £ 109 : 4 :
Donkey Boiler Fee .. £ 12 : 12 :
Traveling Expenses (if any) .. £ 5 : - :
Committee's Minute
Assigned + LMC 1.39 CL Oil Eng 208 150 lb

Not. Fraser.
Engineer Surveyor to Lloyd's Register of Shipping.

