

REPORT ON OIL ENGINE MACHINERY.

No. 11408

16 NOV 1934

Received at London Office

Date of writing Report 19... When handed in at Local Office 15/11/1934 Port of Belfast

No. in Survey held at Belfast Date, First Survey 12th January 1934 Last Survey 9th Nov. 1934

75139 on the Single Twin Triple Quadruple Screw vessel Ju. Sc. M/V. DORSET Tons Gross 10500 Net 6000

Built at Belfast By whom built Workman Clark (1915) Yard No. 534 When built 1934

Engines made at Winterthur By whom made Sulzer Bros Engine No. 6450 When made 1934

Donkey Boilers made at Belfast By whom made Workman Clark (1915) Boiler No. 534 When made 1934

Brake Horse Power 11000 (Two engs) Owners Federal Steam Navigation Co Port belonging to

Nom. Horse Power as per Rule 22386 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

Trade for which vessel is intended Australia & New Zealand.

OIL ENGINES, &c. Type of Engines Water, Clark Sulzer High Pressure Injection 2 or 4 stroke cycle 2. Single or double acting Single

Maximum pressure in cylinders 700 ~800 lb/sq. in Diameter of cylinders 720 mm Length of stroke 1250 mm No. of cylinders 8 No. of cranks 8

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 930 mm Is there a bearing between each crank Yes

Revolutions per minute 126 Flywheel dia. 2350 mm Weight 4250 kg Means of ignition Compression Kind of fuel used Diesel Oil, Various

Crank Shaft, dia. of journals as per Rule 490 as fitted 490 Crank pin dia. 490 mm Crank Webs Mid. length breadth 845 mm Thickness parallel to axis 305 mm

Flywheel Shaft, diameter as per Rule 490 as fitted 490 Intermediate Shafts, diameter as per Rule 14 3/8 as fitted 14 7/8 Thrust Shaft, diameter at collars as per Rule 490 as fitted 490

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 17 as fitted Is the tube shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 27 3/32 as fitted 29 3/32 Thickness between bushes as per rule 5/8 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

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 No. If so, state type Length of Bearing in Stern Bush next to and supporting propeller 5'8"

Propeller, dia. 16'6" Pitch 15'4" No. of blades 3 Material Bronze whether Moveable Yes Total Developed Surface 75 sq. feet

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

Forced Thickness of cylinder liners 457 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 funnel

Cooling Water Pumps, No. 3 Sea water 3 Freshwater 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 Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and Size 2 @ 120 tons/hr. 2 @ 100 tons/hr How driven Motor

Ballast Pumps, No. and size 2 @ 100 tons/hr Lubricating Oil Pumps, including Spare Pump, No. and size 3 @ 55 tons/hr

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 4 @ 3 1/2 2 @ 2 1/2 Aftercufferdam 1 @ 2 1/2 In Pump Room

In Holds, &c. N°1 - 2 @ 3 N°2 - 2 @ 3 1/2 N°3 - 2 @ 3 1/2 Cuffdms 2 @ 3 Jueluet 1 @ 3 N°4 - 3 @ 3 N°5 - 2 @ 3 N°6 - 2 @ 2 1/2

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 @ 6" Funnel well 1 @ 3"

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 Cocks & Valves

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 Below

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 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 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 Upper deck

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. 2 No. of stages 2 Diameters 250 cubic in Stroke @ 450 lbs Driven by 100HP motor or 350HP

Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 20 cubic in Stroke @ 450 lbs Driven by Steam

Scavenging Air Pumps, No. One, Double-acting Tandem Diameter 1660 mm Stroke 750 mm Driven by Main Crankshaft

Auxiliary Engines crank shafts, diameter as per Rule 158 7/8 as fitted 160 7/8 No. 3 Position in Engine over 2 5/16

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Friction plugs on all receivers, 2 safety valves on main

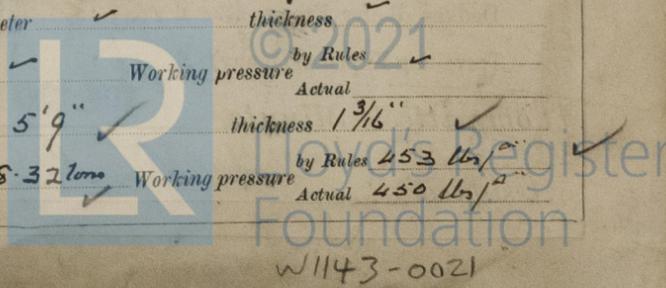
Can the internal surfaces of the receivers be examined and cleaned Yes Is a drain fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. Cubic capacity of each Internal diameter thickness

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

Starting Air Receivers, No. 4 Total cubic capacity 1400 cu ft. Internal diameter 5'9" thickness 1 3/16

Seamless, lap welded or riveted longitudinal joint T.P.D. BUTTS Material Steel Range of tensile strength 28-32 tons Working pressure by Rules 453 lbs/sq. in Actual 450 lbs/sq. in



W1143-0021

IS A DONKEY BOILER FITTED? Yes

If so, is a report now forwarded? Yes

Is the donkey boiler intended to be used for domestic purposes only No.

PLANS. Are approved plans forwarded herewith for Shafting Yes
(If not, state date of approval)

Receivers Yes

Separate Tanks Yes

Donkey Boilers Yes

General Pumping Arrangements Yes

Oil Fuel Burning Arrangements To do Gravity systems

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied One propeller shaft complete and 4 bronze propeller blades.

Stock of tubes for each size of cooler. 1 complete set of thrust pins. 5 cylinder liners. 1 cylinder cover & 1 piston complete with rod and cooling water pipe. 1 piston skirt and 2 piston crowns 5 fuel valves. 2 starting air valves. 8 cylinder relief valves. 8 fuel cams. 4 piston cooling running pipes and 4 stand pipes. 30 spare oil fuel pipes.

The foregoing is a correct description.
pro WORKMAN CLARK (1928) LIMITED.

F. Bunningham Secretary. Manufacturer.

1934
Dates of Survey while building
During progress of work in shops - Jan 12. 23 Mar 5. 15. 19. 27 May 29. 30 June 6. 12. 14. 16. 18. 20. 21. 25. 26. 27. 29 July 2. 3. 6. 11. 16. 18. 19
During erection on board vessel - 20. 24. 25. 27 Aug 8. 15. 20. 29 Sept 4. 10. 11. 17. 20. 24. 26. 27 Oct 2. 4. 9. 10. 12. 13. 15. 16. 17. 18. 19. 24
Total No. of visits 63

Dates of Examination of principal parts -
Cylinders ✓ Covers ✓ Pistons ✓ Rods ✓ Connecting rods ✓
Crank shaft ✓ Flywheel shaft ✓ Thrust shaft ✓ Intermediate shafts ✓
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 ✓ Identification Mark ✓ Flywheel shaft, Material ✓ Identification Mark ✓
Thrust shaft, Material ✓ Identification Mark ✓ Intermediate shafts, Material Steel Identification Marks 4837
Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material Steel Identification Mark

22040S 1401 JKW 18-7-34	22040S 1399 JR 16-6-34	22040S 1400 CNN 18-10-34
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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 No 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 J.W.S. M/V DURHAM.

General Remarks (State quality of workmanship, opinions as to class, &c.)
The main and auxiliary has been efficiently installed and tried out at moored and sea trials with satisfactory results. In my opinion the vessel is eligible for Record in the Society's Register Book. +LMC 11-34 CL. 2 DBs 120 lbs Electric Light. Oil Engines.

Certificate (if required) to be sent to
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Fee
Special £ 31 : 4
Special Air Reserving 16 : 16
Donkey Boiler Fee ... £ 16 : 0
Travelling Expenses (if any) £ : :
When applied for, 22/11/34
When received, 16-12-34
TUE. 20 NOV 1934
Assigned Lmsb. 11. 34
2 DB. 120 lbs

Charles J. Hunter
Engineer Surveyor to Lloyd's Register of Shipping.
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