

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 96601

AUG 29 1938

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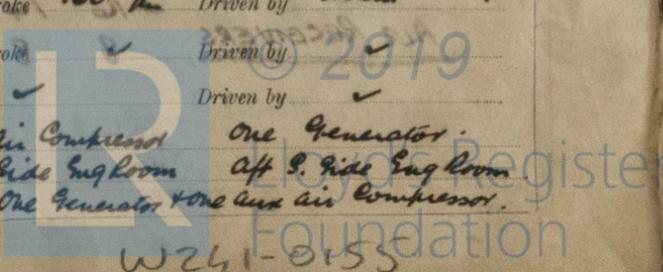
Date of writing Report 19 26th Aug 1938 When handed in at Local Office Newcastle-on-Tyne Port of NEWCASTLE-ON-TYNE
 No. in Survey held at Newcastle-on-Tyne Date, First Survey 28 May 1937 Last Survey 25th Aug 1938
 Reg. Book. 87752 on the Single Twin Triple Quadruple Scraw vessel "DORYSSA" Number of Visits 126

Built at Newcastle-on-Tyne (Hebburn) By whom built Messrs R & W Hawthorn Leslie & Co Ltd Yard No. 612 When built 1938
 Engines made at Newcastle-on-Tyne (St Peter) By whom made Messrs R & W Hawthorn Leslie & Co Ltd Engine No. 3938 When made 1938
 Donkey Boilers made at Newcastle-on-Tyne (St Peter) By whom made Messrs R & W Hawthorn Leslie & Co Ltd Boiler No. 3938 When made 1938
 Brake Horse Power 3500 Owners Anglo Saxon Petroleum Co Ltd Port belonging to London
 Nom. Horse Power as per Rule 502 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

OIL ENGINES, &c. Type of Engine Werkspoor Supercharged 2 or 4 stroke cycle 4 Single or double acting Single
 Maximum pressure in cylinders 700 lbs/10" Diameter of cylinders 650 mm Length of stroke 1400 mm No. of cylinders 8 No. of cranks 8
 Mean Indicated Pressure 135 lbs/10" Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 844 mm Is there a bearing between each crank Yes
 Revolutions per minute 120 Flywheel dia. 2260 mm Weight 6000 Kg. Means of ignition Compression Kind of fuel used Diesel Oil
 Crank Shaft, dia. of journals as per Rule 448 mm as fitted 460 mm Crank pin dia. 460 mm Crank Webs Mid. length breadth 870 mm Thickness parallel to axis 267 mm
 as fitted 460 mm Mid. length thickness 278 mm Thickness around eye-hole 204 mm
 Flywheel Shaft, diameter as per Rule 448 mm as fitted 460 mm Intermediate Shafts, diameter as per Rule 325 mm as fitted 470 mm Thrust Shaft, diameter at collars as per Rule 341 mm as fitted 460 mm
 Tube Shaft, diameter as per Rule 358 mm as fitted 400 mm Is the screw shaft fitted with a continuous liner Yes
 Bronze Liners, thickness in way of bushes as per Rule 17.5 mm as fitted 20 mm Thickness between bushes as per Rule 13.1 mm as fitted 15 mm 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 Continuous
 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 1585 mm
 Propeller, dia. 15'-0" Pitch 12'-0" No. of blades 4 Material M. Bronze whether Moveable Solid Total Developed Surface 72 sq. feet
 Method of reversing Engines Sawomotor Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Yes Means of lubrication Forced
 Thickness of cylinder liners 55 mm 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 of funnel
 Cooling Water Pumps, No. 2 1 - Rotary on Engine 1 - Steam Centrifugal 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. 2 Diameter Rotary Stroke 35 tons/hr Can one be overhauled while the other is at work Yes
 Pumps connected to the Main Bilge Line No. and Size 2 Rotary 35 tons/hr How driven one 8" x 8" x 10" Duplex 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 one 8" x 8" x 10" Duplex Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size one Rotary on M.E. 40 tons/hr
 one Standby 8" x 8" x 10" Duplex 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 one aft well 3 1/2", one Ford-Prs 3 1/2", one Lubric Cofferdam FTA 2 1/2"
 In Machinery Spaces one Hydrophone Comp 2 1/2" In Pump Room 4" Prs
 In Holds, &c. Ford Hold 2" dia Prs, W.T. Flat Forepeak 2" dia Prs Ford aft Cofferdam 4" dia
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size one 5" to Ballast Pump one Emergency to C.W. Pump
 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 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 Suction from aft Cofferdam 4" bore How are they protected Valves on bunker bulkheads
 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 Engine aft 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

Auxiliary Air Compressors, No. one No. of stages 2 Diameters 184 x 206 mm Stroke 160 mm Driven by Diesel Engine
 Auxiliary Air Compressors, No. one No. of stages 2 Diameters 184 x 206 mm Stroke 160 mm Driven by Steam
 Small Auxiliary Air Compressors, No. none No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
 Scavenging Air Pumps, No. none Diameter ✓ Stroke ✓ Driven by ✓
 Auxiliary Engines crank shafts, diameter as per Rule 6" as fitted 110 mm Compressor approved ✓ Generator approved 110 mm No. One Aux Air Compressor Position Ford P. Side Eng Room One Generator Aft S. Side Eng Room
 Steam Engines One Generator + one Aux Air Compressor

W241-0155



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.* 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. *Two* Total cubic capacity *800 cuft.* Internal diameter *4'-10 7/8"* thickness *17/32"*

Seamless, lap welded or riveted longitudinal joint *TRDBS.* Material *Steel* Range of tensile strength *Shell 28-32 tons* Working pressure by Rules *372 lbs/sq in* Actual *350 lbs/sq in*

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.* Receivers *Yes.* Separate Fuel Tanks *Yes.*

Donkey Boiler *Yes.* General Pumping Arrangements *Yes.* Pumping Arrangements in Machinery Space *Yes.*

Oil Fuel Burning Arrangements *Yes.*

SPARE GEAR.

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

State the principal additional spare gear supplied *as per attached list.*

The foregoing is a correct description of the machinery of the vessel *W. MANTHORN, LESLIE & CO. LIMITED*

P. B. Johnson Manufacturer.

Dates of Survey while building: During progress of work in shops - 1927 May 28, Aug. 18, 25, Sep. 6, 10, 17, 23, 27, Oct. 5, 6, 7, 12, 15, 22, 27, 28, Nov. 1, 3, 5, 8, 10, 12, 19, 22, 25, 29, Dec. 1, 2, 3, 7, 8, 9, 10, 11, 1928 Jan. 5, 6, 11, 12, 13, 14, 17, 18, 20, 24, 26, 27, 31, Feb. 2, 4, 9, 8, 9, 10, 14, 15, 16, 17, 18, 22, 23, 24, 28, Mar. 1, 3, 7, 8, 9, 14, 15, 17, 18, 22, 24, 25, 28, Apr. 1, 4, 5, 8, 11, 12, 14, 20, 22, 25, 26, 28, May 4, 5, 9, 10, 11, 13, 16, 18, 20, 24, 26, June 29, July 5, 9, 11, 20, 21, 25, 26, Aug. 6, 7, 10, 11, 12, 17, 25. Total No. of visits *126.*

Dates of Examination of principal parts—Cylinders 1-3-38 Covers 1-3-38 Pistons 17-1-38 Rods 4-2-38. Connecting rods 10-2-38.

Crank shaft 3-3-38. Flywheel shaft 14-3-38. Thrust shaft 1-3-38 Intermediate shafts 5-5-38 Tube shaft *✓*

Screw shaft 1-3-38 Propeller 9-3-38 Stern tube 29-4-38 Engine seatings 20-5-38 Engines holding down bolts 9-7-38.

Completion of fitting sea connections 26-5-38 Completion of pumping arrangements 10-8-38 Engines tried under working conditions 25-8-38

Crank shaft, Material *Steel* Identification Mark *1098-1099* Flywheel shaft, Material *Steel* Identification Mark *1081.*

Thrust shaft, Material *Steel* Identification Mark *5678* Intermediate shafts, Material *Steel* Identification Marks *5541.*

Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *Steel* Identification Mark *5542.*

Is the flash point of the oil to be used over 150° F. *Yes.* *Share 5538.*

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 *Oil Tanker* 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 *"DAPHNELLA" Nwe Rpt No 96399.*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery has been constructed under Special Survey in accordance with the Society's Rules & approved plans. The materials & workmanship are sound & good. The machinery was efficiently installed on board tested & manoeuvred on completion under working conditions & found satisfactory. The machinery of this vessel is eligible in my opinion to be classed and to have the notation of "Oil Engine" and records of +LMC 8,38 and TS etc.

The amount of Entry Fee .. £ 6 : - : When applied for, Special ... £ 100 : 2 : 27 AU 6 1938 Donkey Boiler Fee ... £ 16 : 14 : When received, AIR RECEIVERS ... £ 8 : 8 : 29/8 1938 Travelling Expenses (if any) ... £ 8 : 8 : MK 30/8

Committee's Minute *FRI 2 SEP 1938*

Assigned *+ Rev. 8.38*

SB 180 lb. CL

L. Pickett

Engineer Surveyor to Lloyd's Register of Shipping.



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Newcastle-on-Tyne

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