

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 32109

Received at London Office JUN - 8 1937

Date of writing Report 19 When handed in at Local Office 8 JUNE 1937 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 18 Feb. Last Survey 4 June 1937

Reg. Book. on the Single Twin Triple Quadruple Screw vessel M.V. "YENANGY AUNG" Tons Gross Net

Built at Newcastle By whom built Swan Hunter & Wigham Richardson Ltd. Yard No. 1531 When built 1934

Engines made at Sunderland By whom made Wm. Beard & Son Ltd. Engine No. 198 When made 1934

Donkey Boilers made at By whom made Boiler No. When made

Brake Horse Power 2850 Owners Putnam Oil Co Ltd. Port belonging to

Nom. Horse Power as per Rule 684 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended 2358 Combined 91/26

II ENGINES, &c. Type of Engines Opposed piston airless injection 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 540 lbs/sq. in. Diameter of cylinders 600 mm. Length of stroke Upper 980 mm. Lower 1340 mm. No. of cylinders 4 No. of cranks (3 throws) 4

Mean Indicated Pressure 84 lbs/sq. in. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 940 mm. Is there a bearing between each crank between each 3 throws.

Revolutions per minute 94 Flywheel dia. 2050 mm. Weight F. 62 cwt. A. 88 cwt. Means of ignition Compression Kind of fuel used

Crank Shaft, dia. of journals as per Rule 425 mm. Crank pin dia. 450 mm. Crank Webs Mid. length breadth 650 mm. Thickness parallel to axis 255 mm. Thickness around eye hole 200 mm.

Flywheel Shaft, diameter as per Rule 425 mm. Intermediate Shafts, diameter as per Rule 450 mm. Thrust Shaft, diameter at collars as per Rule 425 mm. as fitted 450 mm.

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

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 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

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

Method of reversing Engines Hand lever. Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Yes. Means of lubrication

Thickness of cylinder liners 25 mm. Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled or lagged with

Insulating 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

Cooling Water Pumps, No. Is the sea suction provided with an efficient strainer which can be cleared within the vessel

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 How driven

Is the cooling water led to the bilges If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

Ballast Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size One main engine driven 100 mm dia 610 mm stroke

Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces In Pump Room

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Spaces

Protected from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Are the Overboard Discharges above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

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

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

Department to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

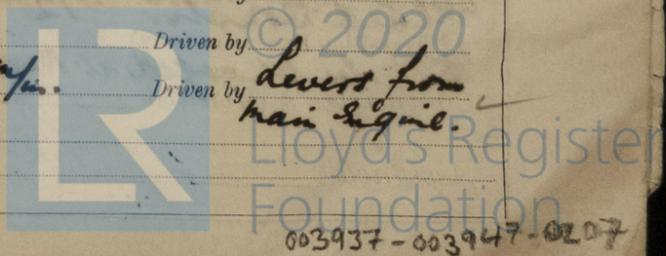
Main Air Compressors, No. No. of stages Diameters Stroke Driven by

Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Refrigerating Air Pumps, No. one Diameter 1960 mm. Stroke 610 mm. Driven by levers from main engine.

Auxiliary Engines crank shafts, diameter as per Rule No. as fitted Position



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?

If so, is a report now forwarded?

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

PLANS. Are approved plans forwarded herewith for Shafting *20/11/35* 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 *Yes*

State the principal additional spare gear supplied *One Cylinder liner & Jacket Complete, one Starting air non-return*

Complete, One Cyl. relief valve Complete, 4 Scavenge pump Suct. & del. Valve discs (halves), two fuel pump bodies Complete with Suct. & del. Valves, one intermediate Crosshead with Str. & nuts, one bell crank lever & suct. tappet for fuel pump, four fuel valves Complete, 1 piston head, 1 roller Chain for Camshaft drive.

The foregoing is an correct description of the machinery, Limited.

Rausay & Co Manufacturer. Directors

Dates of Survey while building: During progress of work in shops -- 1937 Feb. 18, 19, 22, 25, March 3, 5, 9, 15, 16, 17, 18, 19, 22, 23, 25, 31, April 1, 2, 6, 8, 12, 14, 15, 19, 22, 26. During erection on board vessel -- 30, May 3, 5, 6, 7, 10, 11, 13, 14, 19, 20, 21, 24, 25, 27, 28, June 1, 2, 4. Total No. of visits 47.

Dates of Examination of principal parts—Cylinders 22/2/34 25/3/34 Covers ✓ Pistons 21/5/34 24/5/34 Rods 21/5/34 24/5/34 Connecting rods 24/5/34 Crank shaft 9/4/34 (G.L.) Flywheel shaft *as crank* Thrust shaft *as crank* Intermediate shafts Tube shaft ✓

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 *Infot. Steel* Identification Mark *No 198 SO 4264* Flywheel shaft, Material *as crank* Identification Mark *as crank*

Thrust shaft, Material *as crank* Identification Mark *9.4.34 G.O.C.* Intermediate shafts, Material Identification Marks

Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material Identification Mark

Is the flash point of the oil to be used over 150° F.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with

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 *M.V. "BRITISH FAME"*

General Remarks (State quality of workmanship, opinions as to class, &c.) *This machinery has been built under Special Survey in accordance with the Rules of the Society & the Secretary's letter E 25/4/34.*

The materials & workmanship are good.

The engine has been tried under full load conditions on the test bed with satisfactory results & has been despatched to Messrs. Swan Hunter & Wigham Richardson Ltd of Wallsend on Tyne for installation on board the vessel, after which it will be refitted in my opinion to have notation of L.M.C. (with date) oil in the Register Book.

This engine has been satisfactorily fitted on board and tried under working conditions

A. Watt

D. St. Fraser

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee .. £ 6 : - : When applied for, 4/5 Special ... £ 84 : 10 : 8 JUNE 1937
Donkey Boiler Fee ... £ 12 : 12 : When received, 21.7 19 37 27/8
Welded Const. ...
Travelling Expenses (if any) £ : :
1/5 to be charged at Nue
Committee's Minute

Assigned

See Nue. J.C. 9.5379



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