

Rpt. 4b.

## REPORT ON OIL ENGINE MACHINERY.

No. 95349.

AUG 27 1937

Date of writing Report 16/8/37 10 When handed in at Local Office 16/8/37 10 Port of NEWCASTLE-ON-TYNE  
No. in Survey held at Newcastle on Tyne Date, First Survey 18 Feb 37 Last Survey 13 Aug 1937  
Reg. Book. Number of Visits 5

Single  
on the ~~Four~~ Triple } Screw vessel "YENANGYAUNG."  
Quadruple } Tons Gross 5447  
Net 3031

Built at Newcastle on Tyne By whom built Swan, Hunter & Wigham & Co. Yard No. 1531 When built 1937  
Engines made at Sunderland By whom made Wm Duxford & Sons, Ltd Engine No. 198 When made 1937  
Donkey Boilers made at Newcastle By whom made Swan, Hunter & W. Richardson & Co. Boiler No. 1538 When made 1937  
Brake Horse Power 3000 Owners BURMA OIL COY. Port belonging to NEWCASTLE  
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, Carrying Petroleum in bulk.

L ENGINES, &c.—Type of Engines Duxford Opposed-piston oil engine 2 or 4 stroke cycle 2 Single or double acting Single.  
Maximum pressure in cylinders 568 lb Diameter of cylinders 13 600 mm Length of stroke 1340 mm No. of cylinders 4 No. of cranks 4, three-throw  
Mean indicated pressure 85 lb Is there a bearing between each crank Yes  
No. of bearings, adjacent to the Crank, measured from inner edge to inner edge 2320  
Revolutions per minute 100. Flywheel dia. 17'4" 17'4" 17'4" Means of ignition Compression Kind of fuel used Heavy oil fuel

Crank Shaft, dia. of journals as per Rule as fitted Crank pin dia. Crank Webs Mid. length breadth Mid. length thickness Thickness parallel to axis shrunk Thickness around eye-hole

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule 13'06" as fitted 16'2" Thrust Shaft, diameter at collars as per Rule as fitted

Hub Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 15'42" as fitted 16'2" Is the shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 25/32 as fitted 13/16 Thickness between bushes as per rule 19/32 as fitted 3/4 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 In one piece

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 Is an approved Oil Gland or other appliance fitted at the after end of the tube

Length of Bearing in Stern Bush next to and supporting propeller 66 1/2"

Propeller, dia. 16'3" Pitch 13'3" No. of blades 4 Material Mang. Brzg whether Moveable Solid Total Developed Surface 90. sq. feet

Method of reversing Engines Hand lever 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 Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

cooling Water Pumps, No. one M. Eng. driven Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

That special arrangements are made for dealing with cooling water if discharged into bilges

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 one 7'x8'x8" duplex & one 10'x11'x10" duplex Steam driven

Ballast Pumps, No. and size one 10'x11'x10" duplex in E.R. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size one M. Eng. driven, one Steam Standby 8'x7'x13"

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", 2 of 2 1/2" from OF Guttersways In Pump Room 2 of 4"

In Holds, &c. Ford Hold 2 of 2 1/2", Pump Room in Ford Hold one of 2", Ford Cofferdam 1 of 4", Aft Cofferdam 1 of 3" (Steam Ejector)

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two of 5"

Are all the Bilge Suction pipes in Holds and Pump Room fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces

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

What pipes pass through the deep tanks none 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 none 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

Main Air Compressors, No. None Airless Injection No. of stages 3 Peter Brotherhoods Nos 59058 A & B Driven by London Centrifugal C 9449

Auxiliary Air Compressors, No. Two No. of stages 3 Driven by Steam Engines

Small Auxiliary Air Compressors, No. None No. of stages 3 Driven by

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

Auxiliary Engines crank shafts, diameter as per Rule as fitted For 25KW oil Eng. See Gms. Rpt 20056 No. Two 25KW. — one oil engine driven & one Steam Eng. driven

Position Both on Starboard Side in E. Room.

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 280 cub. ft. Internal diameter 4'1 1/2" thickness 1 3/32"

Seamless, lap welded or riveted longitudinal joint T. Riveted. Material Steel Range of tensile strength 29-33 tons Working pressure by Rules Actual 600 lb 600 lb

003937-003947-0206

IS A DONKEY BOILER FITTED? *Yes. Two Donkey Boilers.* If so, ~~are~~ reports now forwarded? *Yes.*

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

PLANS. Are approved plans forwarded herewith for Shafting *4/12/36* Receivers *4/9/36* Separate Tanks *11/1/37 & 25/3/37*  
(If not, state date of approval) *at lads 27/10/36*  
Donkey Boilers *1/9/36* General Pumping Arrangements *in Works, Spec. 17/12/36* Oil Fuel Burning Arrangements *23/3/37*

SPARE GEAR.

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

State the principal additional spare gear supplied *1 Screw Shaft; 12 gauge glasses; 1 feed check valve lid;  
12 boiler tubes; 2 safety valve springs of each size; 1 set of cages for feed water filter;  
1 set of cages for forced lubrication strainers; for Boiler feed pump, 1 set of valves & springs;  
1 set of piston rings, 1 set of bucket rings & 1 bucket complete with rings.*

The foregoing is a correct description,

for *WILLIAM WINTERS & WILKINSON, LIMITED*

*M. Jones* Manufacturer.

Dates of Survey while building  
During progress of work in shops --  
During erection on board vessel --  
Total No. of visits

*1934. Feb. 18, 24, 25, Mar 2, 9, 11, 12, 15, 16, 22, Apr 5, 4, 8, 12, 14, 15, 16, 21, 23, 26, 27, 29, 30, May 3, 4;  
10, 11, 13, 19, 25, 27, 28 June 4, 8, 15, 16, 22, 25, 30, July 5, 12, 14, 15, 20, 22, 26, 27, 30, Aug 4, 5, 12, 13.  
53.*

Dates of Examination of principal parts—Cylinders ✓ *See Sunderland, Rpt No 32109.* Covers ✓ Pistons ✓ Rods ✓ Connecting rods ✓

Crank shaft ✓ Flywheel shaft ✓ Thrust shaft ✓ Intermediate shafts *12/4/37* Tube shaft ✓

Screw shaft *12/4/37* Propeller *26/4/37* Stern tube *12/4/37* Engine seatings *5/7/37* Engines holding down bolts *6/7/37*

Completion of fitting sea connections *4/6/37* Completion of pumping arrangements *5/8/37* Engines tried under working conditions *13/8/37*

Crank shaft, Material ✓ *See Sunderland* Identification Mark ✓ Flywheel shaft, Material ✓ Identification Mark ✓

Thrust shaft, Material ✓ *Rpt No 32109.* Identification Mark ✓ Intermediate shafts, Material *S.M. Steel* Identification Marks *661 F.S.*

Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material *S.M. Steel* Identification Mark *working 3360 F.S.*

Is the flash point of the oil to be used over 150° F. *Yes* *spare 3361 F.S.*

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 *No* If so, state name of vessel ✓

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

*The machinery of this vessel has been constructed and installed under Special Survey in accordance with the Society's Rules and the approved plans, and the materials and workmanship are good.*

*The machinery has been satisfactorily tested under working conditions, and the vessel is eligible in my opinion for record + LMC. 8.37, TS.CL, 2DB. 150th. FD.*

The amount of Entry Fee .. £ ✓ : : When applied for,  
Special *1/5<sup>th</sup> installing* £ 21 : 17 : *26 AUG 1937*  
*£17-6*  
2 Donkey Boilers Fee *11-10* £ 28 : 16 :  
2 Starting Air Rec. £ 4 : 4 :  
Travelling Expenses (if any) £ : : : When received,  
*7.9* 19 *37/8.9*

Committee's Minute

Assigned

*+ Lmb 8.37  
2DB-150th  
oil rec. CL*

*W. W. Nicholson*  
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation