

# REPORT ON OIL ENGINE MACHINERY.

Received at London Office 8 - SEP 1930

Date of writing Report 10 When handed in at Local Office 5<sup>th</sup> Sept. 1930 Port of Belfast

No. in Survey held at BELFAST Date, First Survey 4<sup>th</sup> Nov. 1929 Last Survey 2<sup>nd</sup> Sept 1930  
 Reg. Book. Number of Visits 108

84463 on the <sup>Single</sup> Twin <sup>Triple</sup> Screw vessel SILVERTEAK Tons <sup>Gross</sup> <sup>Net</sup>

Built at BELFAST By whom built HARLAND AND WOLFF LTD Yard No. 884 When built 1930

Engines made at BELFAST By whom made HARLAND AND WOLFF LTD Engine No. 884 When made 1930

Donkey Boilers made at ANNAN & LINCOLN By whom made COCHRAN & CO (ANNAN) LD. BABCOCK & MILCOX LD. Boiler No. 73/4607 When made 1930

Brake Horse Power 6600 Owners SILVER LINE LD (STANLEY & JOHN THOMPSON LD. MGRS.) Port belonging to LONDON

Nom. Horse Power as per Rule 979 Is Refrigerating Machinery fitted for cargo purposes YES Is Electric Light fitted YES

Trade for which vessel is intended OCEAN-GOING

## OIL ENGINES, &c.—Type of Engines HARLAND & WOLFF - B+W WITH PRESSURE INDUCANCE 2 or 4 stroke cycle 4 Single or double acting SINGLE

Maximum pressure in cylinders 650 lbs/Dia Diameter of cylinders 740 mm Length of stroke 1500 mm No. of cylinders 12 No. of cranks 12

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1004 mm Is there a bearing between each crank YES

Revolutions per minute 110 Flywheel dia. 2.429 metres Weight 2,400 Kgs Means of ignition Compression Kind of fuel used Diesel oil

Crank Shaft, dia. of journals as per Rule approved as fitted 515 mm Crank pin dia. 515 mm Crank Webs Mid. length breadth 860 mm Thickness parallel to axis 320 mm  
 as fitted 515 mm Mid. length thickness 320 mm Thickness around eyehole 227 mm

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule approved as fitted 13 3/4" Thrust Shaft, diameter at collars as per Rule approved as fitted 15"

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule approved as fitted 15 3/8" Is the screw shaft fitted with a continuous liner YES

Bronze Liners, thickness in way of bushes as per Rule as fitted 32/16 Thickness between bushes as per rule as fitted 21/32 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 70"

Propeller, dia. 6'-0" Pitch 15'-3" No. of blades THREE Material MANG. BR. whether Moveable YES Total Developed Surface each 56 sq. feet

Method of reversing Engines DIRECT ENGINE Is a governor or other arrangement fitted to prevent racing of the engine when detached YES Means of lubrication FORCED Thickness of cylinder liners 53 mm 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 TO FUNNEL

Cooling Water Pumps, No. Two VERT. CENT. 8" BORE 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. Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and Size ONE BILGE 4 1/2" 100 TONS/HR ONE BALLAST 8" 150 TONS/HR How driven ELECTRIC MOTORS

Ballast Pumps, No. and size ONE VERT. CENT. 8" Lubricating Oil Pumps, including Spare Pump, No. and size Two 100 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 Two of 2 1/2" FOUR of 2 1/2" TUNNEL ONE of 2 1/2" ONE of 2 1/2" (LOWER) ONE of 2 1/2" (REFRIG. SPACE) In Pump Room

In Holds, &c. No. 1 Hold Two of 2 1/2" No. 2 Hold Two of 2 1/2" FORWARD DEEP TANK FOUR of 3 1/2" REFRIG. CARGO SPACES Two of 3 1/2" No. 5 Hold Two of 3 1/2" DRY TANK ONE of 2 1/2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size THREE 5 1/2"

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 YES

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 How are they protected

What pipes pass through the deep tanks Nos. 1 & 2 Hold Suctions 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 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. Two No. of stages THREE Diameters 750-675-150 MM. Stroke 500 MM. Driven by MAIN ENGINES.

Auxiliary Air Compressors, No. ONE No. of stages THREE Diameters 460-405-92 MM. Stroke 260 MM. Driven by ELECTRIC MOTOR

Small Auxiliary Air Compressors, No. ONE No. of stages Two Diameters 106-34 MM. Stroke 80 MM. Driven by PETROL MOTOR.

Scavenging Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule 132 MM No. FOUR as fitted 140 MM Position WINGS OF MAIN MOTOR ROOM

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule YES AND/OR FUSIBLE PLUG.

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. FINE Cubic capacity of each 4-230 LITRES Internal diameter 4-416 MM thickness 4-17.5 MM 1-150 " 1-295 MM 1-15 MM

Seamless, lap welded or riveted longitudinal joint SEAMLESS Material STEEL Range of tensile strength 28-32 Working pressure by Rules 1104 LBS/SQ. IN. Actual 1000 LBS/SQ. IN.

Starting Air Receivers, No. THREE Total cubic capacity 2175 Internal diameter 6'-11 5/16 thickness 1 5/32 Working pressure by Rules 358 LBS/SQ. IN. Actual 356 LBS/SQ. IN.

Seamless, lap welded or riveted longitudinal joint Y.D.S. Material STEEL Range of tensile strength 28-32 Working pressure by Rules 358 LBS/SQ. IN. Actual 356 LBS/SQ. IN.

IS A DONKEY BOILER FITTED? TWO - ONE COCHRAN, ONE WASTE HEAT. If so, is a report now forwarded? YES.

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

PLANS. Are approved plans forwarded herewith for Shafting 14.12.29 Receivers 20.6.29 Separate Tanks 1.11.29  
 (If not, state date of approval)  
 Donkey Boilers 16.12.29 General Pumping Arrangements 14.2.30 Oil Fuel Burning Arrangements 3.3.30

SPARE GEAR.

Has the spare gear required by the Rules been supplied YES

State the principal additional spare gear supplied SEE SEPARATE LIST

The foregoing is a correct description.  
 For HÄRLÄND AND WOLFF, LIMITED,

*A. Marshall* Manufacturer.  
 Assistant Secretary

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Dates of Survey while building  
 During progress of work in shops - 1929 Nov. 4, Dec 4, 5, 9, 11, Jan 10, 24, 27, 30 Feb 7, 12, 13, 14, 24, 25 Mar 3, 6, 7, 10, 11, 12, 14, 17, 18, 20, 24, 25, 26, 27, 31  
 During erection on board vessel - Apr. 1, 3, 4, 7, 8, 9, 10, 11, 15, 16, 17, 23, 24, 25, 28, 29, 30 May 1, 2, 5, 6, 7, 8, 9, 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 24  
 Total No. of visits 108

Dates of Examination of principal parts - Cylinders 9.5.30 Covers 9.5.30 Pistons 30.4.30 Rods 3.6.30 Connecting rods 6.5.30

Crank shaft 25.4.30 3.6.30 Flywheel shaft Thrust shaft 7.5.30 Intermediate shafts 6.15.23 14.1.1930 Tube shaft

Screw shaft 7.5.30 Propeller 7.5.30 Stern tube 26.3.30 Engine seatings 24.5.30 Engines holding down bolts 8.8.30

Completion of fitting sea connections 24.5.30 Completion of pumping arrangements 19.8.30 Engines tried under working conditions

Crank shaft, Material S.M. STEEL Identification Mark 121-132 R.L.A. Flywheel shaft, Material Identification Mark 3148-3203-3303-3349  
 Thrust shaft, Material S.M. STEEL Identification Mark 2931 R.L.A. Intermediate shafts, Material S.M. STEEL Identification Mark 3166-3237-3324  
 Tube shaft, Material Identification Mark Screw shaft, Material S.M. STEEL Identification Mark 2980-3057-3058 R.L.A.

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 YES 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

Is this machinery duplicate of a previous case YES. If so, state name of vessel "SILVERPRESS" "SILVERWALNUT"

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

The machinery of this vessel has been constructed under special survey. The materials and workmanship are sound and good. The main engines and auxiliaries have been tried at moored and sea trials with satisfactory results. In my opinion the vessel is eligible for notation in the Society's Register Book  
 L.M.C. 9.30. C.L. D.B. pressure 150 lbs. Waste Heat Boiler pressure 100 lbs. Fitted for oil fuel 8.30. F.P. above 150° F.

Electric light.

It is submitted that this vessel is eligible for THE RECORD.

+ L.M.C. 9.30 C-L  
 Oil Engines 4 S.C.S.A. 12 cy. 29 1/8 - 59 1/16  
 N.H.P. 979 D.B. (Upper) 100 lb. D.B. 150 lb.

*J. J.* 10/9/30

*R. Lee Anneson*  
 Engineer Surveyor to Lloyd's Register of Shipping.

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 Entry Fee .. £ 6 : - : When applied for,  
 Special ... £ 123 : 19 : 5<sup>th</sup> Sept 1930  
 AIR RESERVOIRS  
 Donkey Boiler Fee ... £ 12 : 12 : : When received,  
 Travelling Expenses (if any) £ : : 24.9.1930

*W.M.P.*  
*ell*

Committee's Minute FRI. 26 SEP 1930

Assigned

+ L.M.C. 9.30 C.L.  
 Oil Eng. D.B. (upper) 100 lb. D.B. 150 lb.

CERTIFICATE WRITTEN.



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