

## REPORT ON OIL ENGINE MACHINERY.

No. 10,368

Received at London Office 17 MAY 1930

Date of writing Report

19

When handed in at Local Office

16<sup>th</sup> May 1930 Port of Belfast.No. in Survey held at  
Reg. Book.

Belfast.

Date, First Survey

19<sup>th</sup> April 1929

Last Survey

8<sup>th</sup> May 1930

Number of Visits

118

on the <sup>Single</sup> Twin <sup>Triple</sup> Screw vessel  
<sup>Quadruple</sup>

"IRISBANK"

Tons <sup>Gross</sup>  
<sub>Net</sub>

Built at Belfast.

By whom built Workman, Clark (1928) Ltd.

Yard No. 510. When built 1930.

Engines made at Belfast.

By whom made Workman, Clark (1928) Ltd.

Engine No. 510. When made 1930.

Donkey Boiler made at Belfast.

By whom made Workman, Clark (1928) Ltd.

Boiler No. 510. When made 1930.

Brake Horse Power

Owners Bank Line Ltd.

Port belonging to Belfast.

Nom. Horse Power as per Rule 1246. Is Refrigerating Machinery fitted for cargo purposes *Yes*. Is Electric Light fitted *Yes*.

Trade for which vessel is intended Ocean going.

OIL ENGINES, &amp;c.—Type of Engines Sultzer - Diesel. 2 or 4 stroke cycle 2 Single or double acting SA.

Maximum pressure in cylinders 500 lb. Diameter of cylinders 680 mm Length of stroke 1200 mm. No. of cylinders 10 No. of cranks 10

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 880 mm.

Is there a bearing between each crank *Yes*.

Revolutions per minute 100 Flywheel dia. 7'-3" Weight 14 tons Means of ignition Compression Kind of fuel used Diesel oil.

Crank Shaft, dia. of journals as per Rule 436.444 as fitted 460 mm. Crank pin dia. 460 mm. Crank Webs Mid. length breadth Semi built Thickness parallel to axis 270 mm.

Flywheel Shaft, diameter as per Rule 436.444 as fitted 460 mm. Intermediate Shafts, diameter as per Rule 12.58" as fitted 12.76" Thrust Shaft, diameter at collars as per Rule 436.444 as fitted 460 mm.

Tube Shaft, diameter as per Rule 13.8" as fitted 14.2" Is the <sup>tube</sup> screw shaft fitted with a continuous liner *Yes*.

Bronze Liners, thickness in way of bushes as per Rule 32 as fitted 3.4" Thickness between bushes as per rule 64 as fitted 19.32" 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 *Yes*.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

Length of Bearing in Stern Bush next to and supporting propeller 4'-10"

Propeller, dia. 14'-9" Pitch 14'-9" No. of blades 4 Material Bronze. whether Moveable *No*. Total Developed Surface 75 sq. feetMethod of reversing Engines Hand Reversing Is a governor or other arrangement fitted to prevent racing of the engine when declutched *Yes*. Means of lubricationForced. Thickness of cylinder liners 25" Are the cylinders fitted with safety valves *Yes*. Are the exhaust pipes and silencers water cooled or lagged withnon-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 *Exhaust led to pump.*Cooling Water Pumps, No. 2 - Duplex. 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 *1-200 ton duplex*. Stroke *1-100 ton Duplex*. Can one be overhauled while the other is at work *Yes*.

Pumps connected to the Main Bilge Line { No. and Size 1-200 ton duplex. 1-100 ton Duplex. How driven Electric.

Ballast Pumps, No. and size 1-200 ton duplex Lubricating Oil Pumps, including Spare Pump, No. and size 2-

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 2-3" (2-2 1/2" to 25 ton transfer pump) 1-2 1/2" to tunnel well.

In Holds, &amp;c. 2-3" No 1 hold. 2-3 1/2" No 2 hold. 2-3" deep tank. 2-3" No 4 hold. 2-3" No 5 hold.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-6" &amp; 1-7"

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes *Yes*. Are the Bilge Suctions in the Machinery Spacesled 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 *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 *None*. How are they protected *Yes*.What pipes pass through the deep tanks *Bilge pipes only*. 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 fromIf a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork *Yes*.Main Air Compressors, No. *Two*. No. of stages *Three*. Diameters <sup>HP 150 mm</sup> 1P 570-4795 Stroke 600 Driven by *Main engines*.Auxiliary Air Compressors, No. *One*. No. of stages *Three*. Diameters <sup>LPT 570-150</sup> Capacity 120 cu ft free air per min. Driven by *Elec motor*.Small Auxiliary Air Compressors, No. *One*. No. of stages *Two*. Diameters <sup>LPT 480-130</sup> Capacity 20 cu ft free air per min. Driven by *Steam*.Scavenging Air Pumps, No. *Two*. Diameter 1400 mm Stroke 620 mm. Driven by *Main engines*.

Auxiliary Engines crank shafts, diameter as per Rule 148.5 mm. as fitted 160. mm.

IR 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 *Yes*. What means are provided for cleaning their inner surfaces *Open ends & /or manholes.*Is there a drain arrangement fitted at the lowest part of each receiver *Yes*. 2-150 litre 54 cuft. 300 mm thickness 16 mm.High Pressure Air Receivers, No. *Ten*. Cubic capacity of each 8-800" 28" Internal diameter 540 mm thickness 25 mm.Seamless, lap welded or riveted longitudinal joint *Yes*. Material *Steel*. Range of tensile strength Working pressure by Rules *F 1 1/2"*Starting Air Receivers, No. *Two*. Total cubic capacity 2-280. 560 cuft. Internal diameter 5'-0" thickness 1" Ends A 1 1/2"Seamless, lap welded or riveted longitudinal joint *Yes*. Material *Steel*. Range of tensile strength *Shell 28/32* Working pressure by Rules *Ends 26/30*

001932-001946-0081

IS A DONKEY BOILER FITTED?

Yes.

Revised

If so, is a report now forwarded?

Yes.

PLANS. Are approved plans forwarded herewith for Shafting

(If not, state date of approval)

2/4/29.

Receiver's 6/7/29.

Separate Tanks 6/11/29.

Donkey Boilers 28/5/29.

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR 1 cylinder cover complete

with all valves, valve casings, springs & other fittings and in addition one complete set of valves for one cylinder with their springs & other fittings & fuel needle valves.

1 piston complete with all piston rings, studs & nuts and in addition one set of piston rings for one piston. Self-lubricating pipes for one piston.

1 set of shaft wheels for the cam shaft drive of one engine. 1 set of studs & nuts for one cylinder cover of each design. 2 crankshaft bearing bolts & nuts.

2 crankpin bearing bolts & nuts.

2 main bearing bolts & nuts.

1 set of bolts for one crankshaft coupling.

1 set of bolts for one intermediate shaft coupling.

for main engine air compressors & pumps.

1 set of bolts for one piston of each size used, in the air compressor.

1 half set of suction & delivery valves for each size used in the air compressor.

10% of suction & delivery valves for scavenging air pump.

The foregoing is a correct description.

FOR WORKMAN CLARK (1928) LIMITED.

J. Cunningham

Manufacturer.

Dates of Survey while building  
During progress of work in shops--  
Aug 2, 5, 7, 9, 14, 19, 21, 23, 26, 28, 29, 30  
During erection on board vessel--  
13, 15, 20, 21, 22, 25, 28, 29, Dec 2, 3, 4, 5, 6, 9, 10, 11, 12, 13, 17, 19, 20, 31  
Total No. of visits 118

Dates of Examination of principal parts--Cylinders 20/12/29. Covers 20/12/29. Pistons 4/12/29. Rods 4/12/29. Connecting rods 4/12/29.

Crank shaft 4/2/30. Flywheel shaft 4/2/30. Thrust shaft 4/2/30. Intermediate shafts 28/11/29. Tube shaft 4/2/30.

Screw shaft 5/12/29. Propeller 5/12/29. Stern tube 3/12/29. Engine seatings P. 1/2/30. Engines holding down bolts P. 1/2/30.

Completion of fitting sea connections 17/12/29. Completion of pumping arrangements 1/4/30. Engines tried under working conditions 8/6/30.

Crank shaft, Material Steel. Identification Mark S. Lloyd's No 72. Flywheel shaft, Material Steel. Identification Mark S. Lloyd's No 72.

Thrust shaft, Material Steel. Identification Mark S. Lloyd's No 73. Intermediate shafts, Material Steel. Identification Marks S. Lloyd's No 73.

Tube shaft, Material Steel. Identification Mark S. Lloyd's No 74. Screw shaft, Material Steel. Identification Mark S. Lloyd's No 74.

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 Been oil. If so, have the requirements of the Rules been complied with Yes.

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 under special survey. The materials & workmanship are sound & good. The main engines and auxiliaries have been tried out under working conditions at moored & sea trials with satisfactory results. In my opinion, the vessel is now eligible for notation in the Society's Register Book + LMC. 5.30. CL. Donkey boiler pressure 120 lbs 0". Fitted for oil fuel 5.30. FP above 150° F. Electric light.

It is submitted that this vessel is eligible for THE RECORD. + LMC 5.30

oil engines 2 S.C. Sa.  
100y. 26 3/4 - 47 1/4.  
NHP. 1246. SB 120th. CL.

John K. Williams  
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 6 : 0 :  
Special ... £ 131 : 3 :  
Donkey Boiler Fee ... £ 6 : 6 :  
Travelling Expenses (if any) £ : :  
When applied for, 12 May 1930  
When received, 27 May 1930

Committee's Minute FRI. 23 MAY 1930

Assigned + L.M.C. 5.30

CERTIFICATE WRITTEN

Oil Eng.

NB 120th. C.L.

Lloyd's Register Foundation