

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 11895
25 FEB 1937

Received at London Office

Date of writing Report 19 24 When handed in at Local Office 24 Port of Belfast
No. in Survey held at Belfast Date, First Survey 17th April 1936 Last Survey 18th Feb. 1937
Reg. Book. 88124 on the Single Screw vessel ERNEBANK SINGLESREW OIL ENGINE Number of Visits 10

Built at Belfast By whom built Harland & Wolff Ltd Yard No. 984 When built 1937
Engines made at do By whom made do do Engine No. 984 When made 1937
Donkey Boilers made at do By whom made do do Boiler No. 984 When made 1937
Brake Horse Power 2850 Owners Andrew Weir & Co. Port belonging to Belfast
Nom. Horse Power as per Rule 490 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
Trade for which vessel is intended Ocean going

MAIN ENGINES, &c.—Type of Engines How. airless injection under piston ^{supercharging} 2 or 4 stroke cycle Yes Single or double acting single
Maximum pressure in cylinders 700 lb/sq in Diameter of cylinders 740 Length of stroke 1500 No. of cylinders 6 No. of cranks 6
Mean Indicated Pressure 128.16 Is there a bearing between each crank Yes
Diameter of bearings, adjacent to the Crank, measured from inner edge to inner edge 972.7
Revolutions per minute 95 Flywheel dia. 2489 Weight 2400 kg Means of ignition Compression Kind of fuel used Diesel oil
Crank Shaft, dia. of journals as per Rule 505.7 as fitted 505.7 Crank pin dia. 505.7 Crank Webs Mid. length breadth 840.7 Thickness parallel to axis 310.7
as fitted 505.7 Mid. length thickness 310.7 Thickness around eye-hole 222.5
Flywheel Shaft, diameter as per Rule as approved Intermediate Shafts, diameter as per Rule as approved Thrust Shaft, diameter at collars as per Rule as approved
as fitted 13 7/8 as fitted 454.7
Screw Shaft, diameter as per Rule as approved Is the main shaft fitted with a continuous liner Yes
as fitted 15 1/2 as fitted 32

STEERAGE GEAR
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 Yes
If so, state type Yes Length of Bearing in Stern Bush next to and supporting propeller 5'-5"
Propeller, dia. 17'-6" Pitch 13'-0" No. of blades 4 Material Mang. Bronze Whether Moveable Solid Total Developed Surface 92 sq. feet
Method of reversing Engines Hand Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Forced
Thickness of cylinder liners 53 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 Yes

COOLING WATER PUMPS, No. Two 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. Two Diameter 4 Stroke 4 Can one be overhauled while the other is at work Yes
Pumps connected to the Main Bilge Line { No. and Size 3 3/8" Bilge 80 tons/hr Ballast 20 tons/hr General Service 14 tons/hr
How driven 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 1-200 and 1-140 tons/hr Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Two 60 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 3 1/2" One 2 1/2" One 2 1/2" engine room. One 2 1/2" Cofferdam In Pump Room Yes
In Holds, &c. Lower 2 1/2" deep tanks Six 3" for holds. Lower 3" aft holds. One 3 1/2" tunnel well.
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two 5"

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 Valves
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 Yes How are they protected Yes
What pipes pass through the deep tanks Yes 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 Deck
If 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 Two Diameters 8 7/8" 4 1/8" Stroke 6 1/4" Driven by Steam
Auxiliary Air Compressors, No. Yes No. of stages Yes Diameters Yes Stroke Yes Driven by Yes
Small Auxiliary Air Compressors, No. Yes No. of stages Yes Diameters Yes Stroke Yes Driven by Yes
Scavenging Air Pumps, No. Yes Diameter Yes Stroke Yes Driven by Yes

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



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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.

High Pressure Air Receivers, No.

Cubic capacity of each

Is a drain fitted at the lowest part of each receiver

Seamless, lap welded or riveted longitudinal joint

Material

Internal diameter

thickness

Starting Air Receivers, No. *Two*

Total cubic capacity *900 cu ft*

Range of tensile strength *605/10*

Working pressure by Rules

Actual

Seamless, lap welded or riveted longitudinal joint *Riveted*

Material *S.M. steel*

Internal diameter *5'-10 5/16*

thickness *1"*

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

by Rules *361*

Actual *356*

PLANS. Are approved plans forwarded herewith for Shafting *24-3-36*

Receivers *1-5-36*

Separate Fuel Tanks *7-9-11-36*

Donkey Boilers *6-5-36*

General Pumping Arrangements *2-12-36*

Pumping Arrangements in Machinery Space *19-10-36*

Oil Fuel Burning Arrangements *10-12-36*

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

See attached list

The foregoing is a correct description.

FOR HARLAND AND WOLFF, LIMITED.

A. G. Marshall Manufacturer.

1936	
Dates of Survey while building	During progress of work in shops - <i>Apr. 17, 21, 22 June 17, 19 July 23, 6, 21, 22, 23, 27, 29, 31 Aug 1, 5, 13, 20, 24, 25, 26, 27, 28, 31 Sept 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 20, 23, 26, 28, 30 Nov 4, 5, 7, 8, 10, 11, 12, 16, 18</i> During erection on board vessel - <i>Apr. 17, 19, 24, 25, 29, 30 Dec 1, 2, 3, 4, 7, 11, 14, 15, 16, 19, 18, 21, 22, 23, 24 1937 Jan 6, 6, 7, 9, 11, 13, 15, 18, 19, 23</i> Total No. of visits <i>104</i>

Dates of Examination of principal parts—Cylinders *27/8/36, 29/9/36* Covers *1-9-36* Pistons *31-8-36* Rods *24-8-36* Connecting rods *29-7-36*
 Crank shaft *4-9-36* Flywheel shaft *✓* Thrust shaft *4-9-36* Intermediate shafts *3-1-10-36, 1-16-10-36, 1-16-9-36* Tube shaft *✓*
 Screw shaft *16-9-36* Propeller *8-10-36* Stern tube *25-8-36* Engine seatings *16-11-36* Engines holding down bolts *13-5-15-12*
 Completion of filling sea connections *16-11-36* Completion of pumping arrangements *10-2-37* Engines tried under working conditions *11-2-37*
 Crank shaft, Material *S.M. Steel* Identification Mark *LLOYDS 250* Flywheel shaft, Material *✓* Identification Mark *✓*
 Thrust shaft, Material *S.M. Steel* Identification Mark *LLOYDS 381* Intermediate shafts, Material *S.M. Steel* Identification Marks *LLOYDS 381*
 Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *S.M. Steel* Identification Mark *LLOYDS 381*

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 *No*
 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 and in accordance with the Rules. The workmanship & materials are good. The main engine & auxiliaries have been efficiently installed and tried out under working conditions with satisfactory results. In our opinion the vessel is eligible for Notation in the Society's Register Book.

+ LMC 2-37 CL 2DB 120 lb 1/2"

The amount of Entry Fee .. £ 5 :
 Special £ 98 : 10 :
 Donkey Boiler Fee £ 10 : 12 :
 Travelling Expenses (if any) £ 7 : 2 :
 Committee's Minute 8 : 8 :

When applied for,

24. 2. 1937

When received,

8.3 37 9/13

Charles J. Hunter, Rlee Armes
 Engineer Surveyor to Lloyd's Register of Shipping.

TUE 2 MAR 1937

Assigned + Lmc 2.37

LDB 120 lb: CL



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