

# REPORT ON OIL ENGINE MACHINERY.

No. 48209

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Date of writing Report 21.7.28 When handed in at Local Office 21.7.28 Port of **GLASGOW.**

No. in Survey held at **Glasgow** Date, First Survey 1.2.28 Last Survey 10-4-1928

Reg. Book. **40335** on the **Single Twin Triple Quadruple** Screw vessel **"CLYDEFIELD"** Tons { Gross 6758 Net 3949

Built at **Glasgow** By whom built **D. & W. Henderson & Co. Ltd.** Yard No. **808M** When built **1928-**  
Engines made at **do.** By whom made **Harland & Wolff Ltd.** Engine No. **808** When made **1928-**  
Donkey Boilers made at **do.** By whom made **D. & W. Henderson & Co. Ltd.** Boiler No. **808** When made **1928**  
Brake Horse Power **3400** Owners **Hunting & Son, Ltd.** Port belonging to **Newcastle**  
Nom. Horse Power as per Rule **647** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**  
Trade for which vessel is intended **Carrying Petroleum in Bulk.**

**IL ENGINES, &c.** Type of Engines **Diesel, vertical reciprocating** or 4 stroke cycle **4** Single or double acting **Single**  
Maximum pressure in cylinders **500 lbs./in<sup>2</sup>** Diameter of cylinders **740 mm** Length of stroke **850 mm** No. of cylinders **8** No. of cranks **8**  
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 **90** Flywheel dia. **7.46 ft.** Weight **2.7 tons** Means of ignition **Compression** Kind of fuel used **Diesel oil**  
Crank Shaft, dia. of journals as per Rule **506.5 mm** as fitted **520 mm** Crank pin dia. **520 mm** Crank Webs Mid. length breadth **840 mm** shrunk Thickness parallel to axis **320 mm**  
Flywheel Shaft, diameter as per Rule **506.5 mm** as fitted **520 mm** Intermediate Shafts, diameter as per Rule **Approved by the Office** as fitted **1.6"** Thrust Shaft, diameter at collars as per Rule **Approved by the Office** as fitted **1.6 1/4"**  
Tube Shaft, diameter as per Rule **Approved by the Office** as fitted **1.6"** Is the tube screw shaft fitted with a continuous liner **Yes**

Bronze Liners, thickness in way of bushes as per Rule **7/8"** as fitted **7/8"** Thickness between bushes as per Rule **1 1/16"** as fitted **1 3/16"** 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 shaft **No** Length of Bearing in Stern Bush next to and supporting propeller **6'-0"**

Propeller, dia. **18'-0"** Pitch **14'-3"** No. of blades **4** Material **Brass** whether Moveable **No** Total Developed Surface **100** sq. feet  
Method of reversing Engines **Compressed Air** Is a governor or other arrangement fitted to prevent racing of the engine when declutched **Yes** Means of lubrication **greasy**  
Thickness of cylinder liners **53 & 32 mm** 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. **1** 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. **1** Diameter **10"** Stroke **10"** Can one be overhauled while the other is at work **Yes**  
Pumps connected to the Main Bilge Line { No. and Size **1** How driven **Hand**  
Ballast Pumps, No. and size **1** Lubricating Oil Pumps, including Spare Pump, No. and size **1**

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 **1**  
In Holds, &c. **1**  
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size **1**  
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-bores **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 **Yes**  
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 **1** How are they protected **By covers**  
What pipes pass through the deep tanks **1** 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 **None** Is it fitted with a watertight door **Yes** worked from **Yes**  
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. **One** No. of stages **Three** Diameters **860, 775 & 200** Stroke **560 mm** Driven by **Main Engines**  
Auxiliary Air Compressors, No. **Two** No. of stages **Three** Diameters **400, 350 & 180** Stroke **260 mm** Driven by **Steam Engines**  
Small Auxiliary Air Compressors, No. **1** No. of stages **1** Diameters **100** Stroke **100** Driven by **Hand**  
Scavenging Air Pumps, No. **1** Diameter **100** Stroke **100** Driven by **Hand**  
Auxiliary Engines crank shafts, diameter as per Rule **Approved by the Office** as fitted **1.6"** **Steam Auxiliaries.**

**AIR RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule **Yes** **Safety valves on pipe lines: double pipes on receivers.**  
Can the internal surfaces of the receivers be examined **Yes** What means are provided for cleaning their inner surfaces **Men, holes & loose ends.**  
Is there a drain arrangement fitted at the lowest part of each receiver **Yes**  
High Pressure Air Receivers, No. **Two** Cubic capacity of each **290 litres** Internal diameter **4.16 mm** thickness **2 1/2 mm**  
Seamless, lap welded or riveted longitudinal joint **Seamless** Material **Steel** Range of tensile strength **28-32 tons/in<sup>2</sup>** Working pressure by Rules **1250 lbs./in<sup>2</sup>**  
Starting Air Receivers, No. **Two** Total cubic capacity **800 ft<sup>3</sup> each** Internal diameter **6'-2" & 6'-4 1/16"** thickness **Shell 1 3/32"; Ends 1 1/32" & 1 1/16"**  
Seamless, lap welded or riveted longitudinal joint **Riveted** Material **Steel** Range of tensile strength **28-32 tons/in<sup>2</sup>** Working pressure by Rules **364 lbs./in<sup>2</sup>**

IS A DONKEY BOILER FITTED? *Yes. Two off.* If so, is a report now forwarded? *Yes: Gps. Rpt. 47937.*  
 PLANS. Are approved plans forwarded herewith for Shafting? *Yes* Receivers *Gps. Rpt. 9885* Separate Tanks *Yes*  
 Donkey Boilers *Yes* General Pumping Arrangements *Yes* Oil Fuel Burning Arrangements *Yes*  
 SPARE GEAR *As per attached list.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building  
 During progress of work in shops-- 1928 Feb. 11-13-14-15-17-21-22-24-27-29 Mar 2-6-9-12-13-16-19-21-27 Apr 2-3-4-5-6-10-11-13-17-19-20-23-26 May 1-14  
 During erection on board vessel--- 21-24-25-30-31 Jun 1-4-6-7-8-11-13-14-19 20-23-25-27-28-29 July 3-4-10  
 Total No. of visits 58

Dates of Examination of principal parts—Cylinders 2-28 Covers 15/17/21-2-28 Pistons 9/12-3-28 Rods 7/12-3-28 Connecting rods 13-3-28  
 Crank shaft 22-2-28 Flywheel shaft 22-2-28 Thrust shaft 2-4-28 Intermediate shafts 2-4-28 Tube shaft ✓  
 Screw shafts 2-4-28 Propeller 19-3-28 Stern tube 19-3-28 Engine seatings 23-4-28 Engines holding down bolts 6-6-28  
 Completion of fitting sea connections 23-4-28 Completion of pumping arrangements 25-6-28 Engines tried under working conditions 28-6-28  
 Crank shaft, Material *Steel* Identification Mark *LLOYD'S + Amples J.D.B. 21-2-28 steel.* Flywheel shaft, Material *Steel* Identification Mark *As per crank.*  
 Thrust shaft, Material *Steel* Identification Mark *LLOYD'S 7.589 J.D.B.* Intermediate shafts, Material *Steel* Identification Marks *LLOYD'S 2203 J.D.B. 7.584*  
 Tube shaft, Material *None* Identification Mark ✓ Screw shafts, Material *Steel* Identification Mark *Norby LLOYD'S 39 7.588 J.D.B. 2111 7.583 J.D.B.*

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 *Oil tanker* If so, have the requirements of the Rules 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.) *These Engines have been built under special survey in accordance with the approved plans & the Rules of this Society; the material & workmanship are good; they have been properly fitted on board and tried under working conditions with satisfactory result.*  
*Donkey Boilers — Gps. Rpt. 47937 (herewith).*  
*Air Reservoirs — Bel. Rpt. 9885 (herewith).*

This Machinery is eligible, in our opinion, to be classed in the Register Book with notation: *L.M.C. 7, 28; C.L.; Oil Engine.*

The amount of Entry Fee ... £ 6 : - : When applied for, 23-7-1928  
 Special ... £ 107/7/6 106-7/1 : When received, 11-8-28  
 Donkey Boiler Fee ... £ Gps. Rpt. 47937  
 Travelling Expenses (if any) £ :

*J.D. Boyle & J.D. McDonald*  
 Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 24 JUL 1928**

Assigned *+ L.M.C. 7, 28*



*A.B. 21/7/28*

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

CERTIFICATE WRITTEN