

# REPORT ON OIL ENGINE MACHINERY.

No. 20668

Received at London Office DEC 21 1938

Date of writing Report 12. 11. 38 When handed in at Local Office 15<sup>th</sup> DEC 1938 Port of Greenwich  
No. in Survey held at Greenwich Date, First Survey 16<sup>th</sup> MARCH 1938 Last Survey 13<sup>th</sup> DECEMBER 1938  
Reg. Book. M/S 'San Demetrio' Number of Visits 14

Single  
on the Top  
Triple  
Quadruple

Screw vessel

Tons } Gross 8073  
          } Net 4815

Built at Greenwich By whom built Plythwood SBC Co. Ltd. Yard No. 52 When built 1938  
Engines made at Greenwich By whom made John & Richard Ltd. Engine No. 1718 When made 1938  
Donkey Boilers made at ditto By whom made ditto Boiler No. 1718 When made 1938  
Brake Horse Power 2800 Owners Eagle Oil Shipping Co. Ltd. Port belonging to London  
Nom. Horse Power as per Rule 503 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
Trade for which vessel is intended 50<sup>th</sup> Foreign

OIL ENGINES, &c.—Type of Engines Diesel Solid Injection or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 600 lb/sq. in. Diameter of cylinders 650 mm Length of stroke 1400 mm No. of cylinders 8 No. of cranks 8  
Mean Indicated Pressure 7.65 kg/cm. at 112 Rev.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 844 mm Is there a bearing between each crank Yes  
Revolutions per minute 112 Flywheel dia. 2218.5 mm Weight 2.19 tons Means of ignition Compression Kind of fuel used Diesel

Crank Shaft, { Solid forged as per Rule 436 mm Crank pin dia. 460 mm Crank Webs Mid. length breadth 650 mm Thickness parallel to axis 267 mm  
                  { Semi-finished dia. of journals as fitted 460 mm Mid. length thickness 267 mm Thickness around eye-hole 205 mm  
                  { All built

Propeller Shaft, diameter as per Rule 436 mm Intermediate Shafts, diameter as per Rule 12-18 Thrust Shaft, diameter at collars as per Rule 12.8  
as fitted 18 1/4" as fitted 24" as fitted 18 1/4"

Tube Shaft, diameter as per Rule 13.49" Screw Shaft, diameter as per Rule 18" Is the left shaft fitted with a continuous liner Yes  
as fitted 18" as fitted

Bronze Liners, thickness in way of bushes as per Rule .42 Thickness between bushes as per Rule .54 Is the after end of the liner made watertight in the  
as fitted 7/8" as fitted 1 1/16"

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 5'-0"

Propeller, dia. 15'-9" Pitch 11'-3" No. of blades 4 Material Brass whether Moveable No Total Developed Surface 83 sq. feet

Method of reversing Engines air Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes Means of lubrication Force

Thickness of cylinder liners 40/48 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 Funnel

Cooling Water Pumps, No. 2 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. 2 Rotary Stroke 35 cm/rev. Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line { No. and Size 3 } 2 at 35 cm/rev. one 5" x 8" x 10"  
  { How driven Main Engine } Steam Engine

Is the cooling water led to the bilges Yes If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements —

Ballast Pumps, No. and size None Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 5" x 8" x 10" Rotary

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 at 3 1/2" In Pump Room 2. 4"

In Hold, &c. 2. 2 1/2" Main Tanks 1-10", 2 8" using Suction.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2. 6"

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 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 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 None How are they protected —

What pipes pass through the deep tanks — 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 — 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. 1 No. of stages — Diameters — Stroke — Driven by —

Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 5" x 11" Stroke 4" Driven by Steam

Small Auxiliary Air Compressors, No. — No. of stages — Diameters — Stroke — Driven by —

What provision is made for first Charging the Air Receivers Steam driven Compressor

Scavenging Air Pumps, No. — Diameter — Stroke — Driven by —

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

Have the Auxiliary Engines been constructed under special survey Yes Is a report sent herewith Yes

**AIR RECEIVERS:**—Have they been made under survey *yes* State No. of Report or Certificate **C 1155**  
 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*

**Injection Air Receivers, No.** *✓* Cubic capacity of each *330* Internal diameter *21* thickness *15/16"*  
 Seamless, lap welded or riveted longitudinal joint *✓* Material *TR. D.B.S.* Range of tensile strength *29.33* Working pressure *357 lbs*  
 by Rules *357 lbs*  
 Actual *350 lbs*

**Starting Air Receivers, No.** *2* Total cubic capacity *800 cu/ft* Internal diameter *5-10 1/4"* thickness *15/16"*  
 Seamless, lap welded or riveted longitudinal joint *TR. D.B.S.* Material *S* Range of tensile strength *29.33* Working pressure *357 lbs*  
 by Rules *357 lbs*  
 Actual *350 lbs*

**IS A DONKEY BOILER FITTED?** *yes* If so, is a report now forwarded? *yes*  
 Is the donkey boiler intended to be used for domestic purposes only *No*

**PLANS.** Are approved plans forwarded herewith for Shafting *yes* Receivers *yes* Separate Fuel Tanks *-*  
 (If not, state date of approval)  
 Donkey Boilers *yes* General Pumping Arrangements *yes* Pumping Arrangements in Machinery Space *yes*  
 Oil Fuel Burning Arrangements *yes*

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied *yes*  
 State the principal additional spare gear supplied *one Propeller shaft fitted with contour turn & clamp H.R. 7518 W.G.M. also Cast Iron Propeller*

The foregoing is a correct description,  
 For **JOHN G. KINCAID & CO. LIMITED.**  
*J. Kincaid* Director. Manufacturer.

Dates of Survey while building	During progress of work in shops--	(1938) MAR. 16-24-31. APR. 5-11-19. 28. MAY 9-12-16-18-23-26. JUNE 2-7-9-11-20-23-24-27-28. JULY 25-26. AUG. 2-8-10-12-15-18-19-25-29-30-31. SEPT. 1-2-5-6-7-13-16-19-20
	During erection on board vessel--	27-30. OCT. 4-5-8-11-12-13-14-17-18-24-28-31. NOV. 1-2-3-4-11-15-16-18-23-24-28. DEC. 1-5-9-12-13.
	Total No. of visits	<i>4</i>

Dates of Examination of principal parts—Cylinders	<i>30. 8. 38</i>	Covers	<i>3. 8. 38</i>	Pistons	<i>27. 9. 38</i>	Rods	<i>4. 10. 38</i>	Connecting rods	<i>30. 9. 38</i>
Crank shaft	<i>25. 8. 37</i>	Turning wheel shaft	<i>25. 8. 37</i>	Thrust shaft	<i>12. 10. 38</i>	Intermediate shafts	<i>12. 10. 38</i>	Tube shaft	<i>✓</i>
Screw shaft	<i>16. 9. 38</i>	Propeller	<i>16. 9. 38</i>	Stern tube	<i>1- 9. 38</i>	Engine sealings	<i>see H.R. Rept</i>	Engines holding down bolts	<i>15- 11. 38</i>
Completion of fitting sea connections	<i>see H.R. Rept</i>	Completion of pumping arrangements	<i>9. 12. 38</i>	Engines tried under working conditions	<i>13 12. 38</i>				
Crank shaft, Material	<i>S</i>	Identification Mark	<i>LR 3168 WGM</i>	Turning wheel shaft, Material	<i>S</i>	Identification Mark	<i>LR 3168 WGM</i>		
Thrust shaft, Material	<i>S</i>	Identification Mark	<i>LR 7889 WGM</i>	Intermediate shafts, Material	<i>S</i>	Identification Marks	<i>LR 7518 WGM</i>		
Tube shaft, Material	<i>✓</i>	Identification Mark	<i>✓</i>	Screw shaft, Material	<i>S</i>	Identification Mark	<i>LR 7518 J.D.B</i>		

NO. 2153  
 Lloyd's Reg. 576 lbs  
 WP 350 lbs  
 WGM 24-6-38

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 *✓* 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.) *These Engines & Boilers have been built under special survey in accordance with the approved plans & the workmanship & material are of good quality they have now been securely fitted on board, tried under working conditions & found satisfactory. The Machinery is eligible in my opinion for the record of*  
 ✠ *H.M.C. 12-38 (Station of Donkey Boilers WP 180 lbs)*

The amount of Entry Fee	£ 6	When applied for,	
Special	£ 100	3	15 <sup>th</sup> DECEMBER 1938
Donkey Boiler Fee	£ 25	8	
<i>Oil Reservoir</i>	£ 8	8	22/12/38

*W. Gordon-Maclean*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 20 DEC 1938**  
 Assigned + Inc 12.38 2 5B-180 lb.