

# REPORT ON OIL ENGINE MACHINERY.

No. 20549  
JUN - 8 1938

Received at London Office JUN 17 1938

Date of writing Report 15. 4 1938 When handed in at Local Office 1<sup>st</sup> JUNE 1938. Port of Greenock

No. in Survey held at Greenock Date, First Survey 8<sup>th</sup> OCTOBER 1934. Last Survey 30<sup>th</sup> MAY 1938  
Reg. Book. Number of Visits 60

on the Single Triple Quadruple Screw vessel

M/S "Davila"

Tons } Gross 8053.30.  
          } Net 4464.94.

Built at St. Petersburg By whom built Lithgows & Co Yard No. 907 When built 1938

Engines made at Greenock By whom made John Kirkcaldy & Co Engine No. 1114 When made 1938

Donkey Boilers made at ditto By whom made ditto Boiler No. 1114 When made 1938

Brake Horse Power 2800 Owners Anglo Sardinian Petroleum 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 Towage

OIL ENGINES, &c.—Type of Engines Diesel Solid Injection (Lundholm Patent) Supercharger or 4 stroke cycle H Single or double acting Single

Maximum pressure in cylinders 600 Diameter of cylinders 25 1/8" Length of stroke 55 3/4" No. of cylinders 8 No. of cranks 8

Mean Indicated Pressure 4.65 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 84 1/2" Is there a bearing between each crank Yes

Revolutions per minute 112 Flywheel dia. 221 9/16" Weight 2.9 tons Means of ignition Compression Kind of fuel used Diesel

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

Flywheel Shaft, diameter as per Rule 436" as fitted 460" Intermediate Shafts, diameter as per Rule 12.18" as fitted 21" Thrust Shaft, diameter at collars as per Rule 12.8" as fitted 18 1/4"

Tube Shaft, diameter as per Rule 13.5" as fitted 18" Screw Shaft, diameter as per Rule 13.5" as fitted 18" Is the { tube screw } shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 42" as fitted 4 1/8" Thickness between bushes as per Rule 54" as fitted 11 1/16" 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 No

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 No

If two liners are fitted, is the shaft lapped or protected between the liners No Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft No If so, state type No

Length of Bearing in Stern Bush next to and supporting propeller 5.0"

Propeller, dia. 15.0" Pitch 12.0" No. of blades 4 Material Brass whether Moveable No Total Developed Surface 42 sq. feet

Method of reversing Engines Air Is a governor or other arrangement fitted to prevent racing of the engine when de-coupled Yes Means of lubrication Forced

Thickness of cylinder liners 40-48" 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 Flange

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. Two Diameter Rotary Stroke 3.5 tons Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line { No. and Size 3" 2 at 3.5 tons } one 8.8+10" How driven Main Engines Steam Engine

Is the cooling water led to the bilges One If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements No

Ballast Pumps, No. and size None Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 (one 40 ltrs) (1.8+6-10)

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 3.3 1/2" In Pump Room 4.3"

Holds, &c. 2. 2 1/2" Tunnels 6.8" Cofferdams 2.3"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two 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 fitted 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 None

What pipes pass through the deep tanks None 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 Not fitted Is it fitted with a watertight door No worked from No

On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork None

Main Air Compressors, No. 1 No. of stages 1 Diameters 15" Stroke 7" Driven by Steam

Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 5+11" Stroke 7" Driven by Steam

Small Auxiliary Air Compressors, No. 1 No. of stages 1 Diameters 15" Stroke 7" Driven by Steam

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

Scavenging Air Pumps, No. 1 Diameter 15" Stroke 7" Driven by Steam

Auxiliary Engines crank shafts, diameter as per Rule 15" as fitted 15" No. 1 Position Engine Room

Have the Auxiliary Engines been constructed under special survey Yes Is a report sent herewith No

B.S.B.  
9-6-38

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**AIR RECEIVERS:**—Have they been made under survey? *yes* ✓ State No. of Report or Certificate *yes C 112* ✓  
 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 *—* Internal diameter *—* thickness *—*  
 Seamless, lap welded or riveted longitudinal joint *—* Material *—* Range of tensile strength *—* Working pressure *—*  
**Starting Air Receivers, No.** *2* ✓ Total cubic capacity *800 C/F* ✓ Internal diameter *5-10 1/4* ✓ thickness *15/16* ✓  
 Seamless, lap welded or riveted longitudinal joint *TRIDBS* ✓ Material *S* ✓ Range of tensile strength *29-33* ✓ Working pressure *by Rules 354* ✓  
 Actual *356* ✓

**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 (If not, state date of approval) *yes* ✓ Receivers *yes* ✓ Separate Fuel Tanks *yes* ✓  
 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 *Propeller shaft complete (continuous) steam*  
*HR. 4680 WGM, 21.3-38. Coal Iron Propeller.* ✓

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

*W. Kincaid* Director. Manufacturer.

Dates of Survey while building  
 During progress of work in shops-- (1934) Oct. 8, Nov. 8-10, 22, Dec. 9, 13, 20, 24. (1938) JAN. 12, 14, 19, 24, 25, 26, 31. FEB. 4, 8, 9, 10, 11, 14, 15, 16, 21, 23, 25, 28. MAR. 4, 8, 9, 10.  
 During erection on board vessel-- 14, 18, 21, 24, 25, 26, 28, 31. APRIL 1, 15, 19, 20, 21, 25, 27, 29. MAY 2, 4, 5, 9, 11, 23, 24, 25, 30.  
 Total No. of visits *60.*

Dates of Examination of principal parts—Cylinders *14-2-38* Covers *15-2-38* Pistons *14-3-38* Rods *14-2-38* Connecting rods *14-3-38*  
 Crank shaft *25-1-38* Flywheel shaft *25-1-38* Thrust shaft *21-2-38* Intermediate shafts *28-3-38* Tube shaft *—*  
 Screw shaft *14-3-38* Propeller *14-3-38* Stern tube *10-3-38* Engine seatings *18-3-38* Engines holding down bolts *9-5-38*  
 Completion of fitting sea connections *21-3-38* Completion of pumping arrangements *9-5-38* Engines tried under working conditions *30-5-38*  
 Crank shaft, Material *S* Identification Mark *LR 7680 WGM* Flywheel shaft, Material *S* Identification Mark *LR 7680 WGM*  
 Thrust shaft, Material *S* Identification Mark *LR 7680 WGM* Intermediate shafts, Material *S* Identification Marks *LR 7680*  
 Tube shaft, Material *—* Identification Mark *—* Screw shaft, Material *S* Identification Mark *LR 7680*

Identification Marks on Air Receivers  
 No 2133  
 LLOYD'S TEST  
 5713 4h  
 W.P. 250 lb  
 WGM 24-12-37

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 *yes* If so, state name of vessel *M/s Adula* ✓

**General Remarks** (State quality of workmanship, opinions as to class, &c.) *These engines & boiler 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 notation L M C 538 (Notation of Donkey Boiler W.P. 180 lb)*

The amount of Entry Fee .. £ 6 : : When applied for,  
 Special ... .. £ 100 : 3 : 30th JUNE 1938.  
 Donkey Boiler Fee ... .. £ 16 : 12 : :  
 Travelling Expenses (if any) £ 8 : 8 : : 7.6 1938

Committee's Minute **GLASGOW 7 - JUN 1938**

Assigned *+ L M C 538*

*DB-180lb*

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



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