

# REPORT ON OIL ENGINE MACHINERY.

No. 61494

AUG 30 1939

Date of writing Report 19 28.8.39 When handed in at Local Office Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 12.6.39 Last Survey 22nd Aug 1939  
 Reg. Book. Single on the Twin Triple Quadruple Screw vessel M.V. "BEN HANN"  
 Built at Rowhedge By whom built Rowhedge Ironworks Co. Yard No. 585 When built 1939  
 Engines made at Glasgow By whom made British Auxiliaries Ltd Engine No. 340 When made 1939  
 Donkey Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ Boiler No. \_\_\_\_\_ When made \_\_\_\_\_  
 Brake Horse Power 560 Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_  
 Nom. Horse Power as per Rule 101 Is Refrigerating Machinery fitted for cargo purposes \_\_\_\_\_ Is Electric Light fitted \_\_\_\_\_  
 Trade for which vessel is intended \_\_\_\_\_

**OIL ENGINES, &c.**—Type of Engines Heavy Oil Type M46I 2 or 4 stroke cycle 2 Single or double acting Single  
 Maximum pressure in cylinders 782 lbs. Diameter of cylinders 250 7/8 Length of stroke 420 7/8 No. of cylinders 6 No. of cranks 6  
 Mean Indicated Pressure 96.7 Sp. of bearings, adjacent to the Crank, measured from inner edge to inner edge 360 7/8 Is there a bearing between each crank Yes  
 Rev. utions per minute 375 Flywheel dia. 900 7/8 Weight 369 Kgs Means of ignition Compression Kind of fuel used Diesel  
 Crank Shaft, { Solid forged, Semi built, All built } dia. of journals as per Rule 158 7/8 as fitted 160 7/8 Crank pin dia. 160 7/8 Crank Webs Mid. length breadth 214.3 7/8 Thickness parallel to axis shrink Thickness around eyehole shrink  
 Flywheel Shaft, diameter as per Rule 158 7/8 as fitted 160 7/8 Intermediate Shafts, diameter as per Rule 113 7/8 as fitted \_\_\_\_\_ Thrust Shaft, diameter at collars as per Rule 158 7/8 as fitted 160 7/8  
 Tube Shaft, diameter as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Screw Shaft, diameter as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Is the { tube } screw } shaft fitted with a continuous liner { \_\_\_\_\_  
 Bronze Liners, thickness in way of bushes as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Thickness between bushes as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Is the after end of the liner made watertight in the propeller boss \_\_\_\_\_  
 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 \_\_\_\_\_  
 If so, state type \_\_\_\_\_ Length of Bearing in Stern Bush next to and supporting propeller \_\_\_\_\_

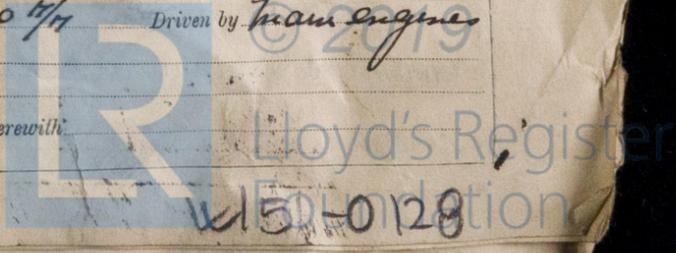
Propeller, dia. \_\_\_\_\_ Pitch \_\_\_\_\_ No. of blades \_\_\_\_\_ Material \_\_\_\_\_ whether Moveable \_\_\_\_\_ Total Developed Surface \_\_\_\_\_ sq. feet  
 Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Forced  
 Thickness of cylinder liners 19.5 7/8 Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-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 \_\_\_\_\_

Cooling Water Pumps, No. One SA. 140 7/8 x 60 7/8 Is the sea suction provided with an efficient strainer which can be cleared within the vessel \_\_\_\_\_  
 Bilge Pumps worked from the Main Engines, No. One Diameter 110 7/8 Stroke 60 7/8 Can one be overhauled while the other is at work \_\_\_\_\_  
 Pumps connected to the Main Bilge Line { No. and Size \_\_\_\_\_ How driven \_\_\_\_\_  
 Is the cooling water led to the bilges \_\_\_\_\_ 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 \_\_\_\_\_ Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 off. 2575 gallons each per Hour  
 Are two independent means arranged for circulating water through the Oil Cooler \_\_\_\_\_ Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces \_\_\_\_\_ In Pump Room \_\_\_\_\_  
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size \_\_\_\_\_  
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes \_\_\_\_\_ 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 \_\_\_\_\_  
 Are all Sea Connections fitted direct on the skin of the ship \_\_\_\_\_ Are they fitted with Valves or Cocks \_\_\_\_\_  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates \_\_\_\_\_ Are the Overboard Discharges above or below the deep water line \_\_\_\_\_  
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel \_\_\_\_\_ Are the Blow Off Cocks fitted with a spigot and brass covering plate \_\_\_\_\_  
 What pipes pass through the bunkers \_\_\_\_\_ How are they protected \_\_\_\_\_  
 What pipes pass through the deep tanks \_\_\_\_\_ Have they been tested as per Rule \_\_\_\_\_

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times \_\_\_\_\_  
 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 \_\_\_\_\_ Is the Shaft Tunnel watertight \_\_\_\_\_ 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. One No. of stages 2 Diameters 40 7/8 + 55 7/8 Stroke 240 7/8 Driven by Main engines  
 Auxiliary Air Compressors, No. \_\_\_\_\_ No. of stages \_\_\_\_\_ Diameters \_\_\_\_\_ Stroke \_\_\_\_\_ Driven by \_\_\_\_\_  
 Small Auxiliary Air Compressors, No. \_\_\_\_\_ No. of stages \_\_\_\_\_ Diameters \_\_\_\_\_ Stroke \_\_\_\_\_ Driven by \_\_\_\_\_  
 What provision is made for first Charging the Air Receivers \_\_\_\_\_  
 Scavenging Air Pumps, No. One Diameter 720 7/8 Stroke 240 7/8 Driven by Main engines  
 Auxiliary Engines crank shafts, diameter as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ No. \_\_\_\_\_ Position \_\_\_\_\_  
 Have the Auxiliary Engines been constructed under special survey \_\_\_\_\_ Is a report sent herewith \_\_\_\_\_



**AIR RECEIVERS:**—Have they been made under survey yes State No. of Report or Certificate 638848  
 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.** Two Cubic capacity of each 3.75 Internal diameter 21" thickness 13/32"  
 Seamless, lap welded or riveted longitudinal joint ✓ Material Steel Range of tensile strength 24-28 tons Working pressure by Rules ✓ Actual ✓  
**Starting Air Receivers, No.** Two Total cubic capacity 800 litre Internal diameter 21" thickness 13/32"  
 Seamless, lap welded or riveted longitudinal joint riveted Material Steel Range of tensile strength 24-28 tons Working pressure by Rules ✓ Actual 355 lb

**IS A DONKEY BOILER FITTED?** If so, is a report now forwarded? aphedwed  
 Is the donkey boiler intended to be used for domestic purposes only aphedwed  
**PLANS.** Are approved plans forwarded herewith for Shafting 27-8-35 Receivers 16-5-33 Separate Fuel Tanks aphedwed  
 (If not, state date of approval)  
 Donkey Boilers aphedwed General Pumping Arrangements aphedwed Pumping Arrangements in Machinery Space aphedwed  
 Oil Fuel Burning Arrangements aphedwed

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied yes  
 State the principal additional spare gear supplied as per attached list

The foregoing is a correct description,

*[Signature]*  
 Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1939 June: 12.21.26 July 3 Aug: 10.15.16.22  
 { During erection on board vessel -- }  
 Total No. of visits 8  
 Dates of Examination of principal parts—Cylinders 21-6-39 Covers 3-7-39 Pistons 21-6-39 Rods 26-6-39 Connecting rods 26-6-39  
 Crank shaft 12-6-39 Flywheel shaft and Thrust shaft 12-6-39 Intermediate shafts and Tube shaft and  
 Screw shaft and Propeller and Stern tube and Engine seatings and Engines holding down bolts and  
 Completion of fitting sea connections and Completion of pumping arrangements and Engines tried under working conditions and  
 Crank shaft, Material steel Identification Mark Lloyd's No 9911 P.K. 30.9.39 Flywheel shaft, Material and Identification Mark and  
 Thrust shaft, Material steel Identification Mark LLOYD'S NO 868 T.T. 8-6-39 Intermediate shafts, Material and Identification Marks and  
 Tube shaft, Material and Identification Mark and Screw shaft, Material and Identification Mark and  
 Identification Marks on Air Receivers No. 38848 LLOYD'S TEST 555 lbs W.P. 355 lbs. 5-7-39

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 yes  
 Is this machinery duplicate of a previous case yes If so, state name of vessel MOTOR TUG "WASP" - GLO No 6193

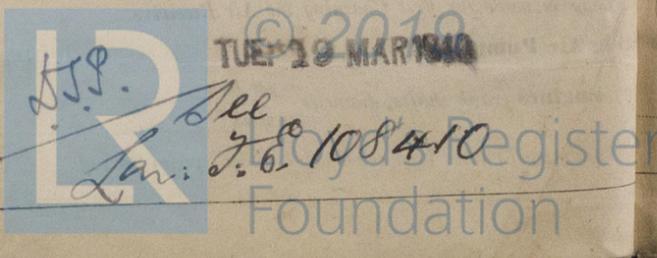
**General Remarks** (State quality of workmanship, opinions as to class, &c.) These engines have been built under Special Survey in accordance with the Rules and approved plans. The materials and workmanship are good. They have been tested on the bench at full power with satisfactory results. They have been shipped to Rowhedge for fitting on board a vessel No. 585 building by Messrs Rowhedge Ironworks Co.

The amount of Entry Fee £ 3 - 0 - 0 When applied for, 29 AUG 1939  
 Special £ 25 - 5 - 0  
 Donkey Boiler Fee £ When received, £ 28 - 5 - 0 paid Glasgow 2nd Oct. 1939  
 Travelling Expenses (if any) £

*[Signature]*  
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **GLASGOW 29 AUG 1939**

Assigned **TRANSMIT TO LONDON**



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