

REPORT ON OIL ENGINE MACHINERY.

No. 15658
7 JAN 1935 28 FEB 1935

Received at London Office

Date of writing Report 5th Jan 1935 When handed in at Local Office 5th Jan 1935 Port of Southampton
 No. in Survey held at Janil Date, First Survey 12. 11. 34 Last Survey 10. 12. 1934
 Reg. Book. Single on the Twin Triple Quadruple Screw vessel M/V SEVERN INDUSTRY Tons { Gross 122.13 Net 122.13
 Built at Bristol By whom built Chas. Hill & Sons' Yard No. 215 When built 1934
 Engines made at Yarnie By whom made P. H. & Co. Ltd Engine No. 220780 When made 1934
 Donkey Boilers made at Yarnie By whom made Yarnie Boiler No. 1 When made 1934
 Brake Horse Power 120 Owners Severn & Canal Towing Co. Ltd Port belonging to Bristol
 Nom. Horse Power as per Rule 45 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No
 Trade for which vessel is intended Severn in Bristol Channel (Limburg port narrow beam)

ENGINES, &c.—Type of Engines HEAVY OIL 2 or 4 stroke cycle 2 Single or double acting Single
 Working pressure in cylinders 650 lbs Diameter of cylinders 8" Length of stroke 11 3/4" No. of cylinders 4 No. of cranks 4
 Distance between bearings, adjacent to the Crank, measured from inner edge to inner edge 11 3/4" Is there a bearing between each crank yes
 Revolutions per minute 450 Flywheel dia. 2'-6" Weight 1151 lbs Means of ignition Compression Kind of fuel used Heavy Oil
 Crank Shaft, dia. of journals as per Rule 4 1/2" Crank pin dia. 4 1/2" Crank Webs as per Rule 4 1/2" Mid. length breadth 6 1/4" Thickness parallel to axis as per Rule 3 1/4"
 Main Shaft, diameter as per Rule 4 1/2" Intermediate Shafts, diameter as per Rule 4 1/2" Thrust Shaft, diameter at collars as per Rule 3 1/4"
 Propeller Shaft, diameter as per Rule 4 1/2" Is the propeller shaft fitted with a continuous liner Yes
 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 stern 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
 Is 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
 Are the liners 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
 Propeller, dia. 43" Pitch 27" No. of blades 4 Material C.I. whether Moveable No Total Developed Surface 5.66 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 oil
 Thickness of cylinder liners as per Rule Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with insulating material Water cooled
 Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
 Working Water Pumps, No. one main engine only 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. one Diameter 2 3/4" Stroke 2 1/4" Can one be overhauled while the other is at work Yes
 Pumps connected to the Main Bilge Line { No. and Size 2-2" How driven 1 Semi Rotary & 1 off main engine
 Ballast Pumps, No. and size one 1 1/4" x 1" 119 gals/hr.
 Are two independent means arranged for circulating water through the Oil Cooler None Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps In Pump Room
 Pumps, No. and size:—In Machinery Spaces 2-in E. Room 2" dia
 Holds, &c. 1-2" dia in Hold
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size one hand pump in bilge
 Are all the Bilge Suction pipes in Holds and Trunks fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces 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 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 Yes
 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 boiler 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 Yes
 Main Air Compressors, No. one No. of stages one Diameters 3 5/8" Stroke 3 5/8" Driven by main engines
 Auxiliary Air Compressors, No. one No. of stages two Diameters 1 3/8-2 3/4" Stroke 1 5/8" Driven by Petrol
 Small Auxiliary Air Compressors, No. one No. of stages one Diameters 1 5/8" Stroke 1 5/8" Driven by Petrol
 Scavenging Air Pumps, No. one Diameter 1 1/4" Stroke 1 1/4" Driven by Petrol
 Auxiliary Engines crank shafts, diameter as per Rule 1 1/4" Position as per Rule
AIR RECEIVERS:—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
 High Pressure Air Receivers, No. one Cubic capacity of each 1-11 1/4 cu. ft. Internal diameter 1-18" thickness 1-1 1/4"
 Seamless, lap welded or riveted longitudinal joint 10 cu. ft. Rivetted Material A.S. Range of tensile strength 1-18" Working pressure Actual 350/60"
 Starting Air Receivers, No. 2 Total cubic capacity 1-11 1/4 cu. ft. Internal diameter 1-18" thickness 1-1 1/4"
 Seamless, lap welded or riveted longitudinal joint 10 cu. ft. Rivetted Material A.S. Range of tensile strength 1-18" Working pressure Actual 350/60"

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *✓*

Is the donkey boiler intended to be used for domestic purposes only *✓*

PLANS. Are approved plans forwarded herewith for Shafting *15. 11. 34*
(If not, state date of approval) *16. 11. 34*

Receivers *No*

Separate Tanks *✓*

Donkey Boilers *✓*

General Pumping Arrangements *Yes*

Oil Fuel Burning Arrangements *✓*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes*

State the principal additional spare gear supplied *Plan in Specs letter 2/1/35*

The foregoing is a correct description,

Charles D. H.
For and on behalf of Patters Limited.

Drawing Office Manager.

Manufacturer.

Dates of Survey while building
During progress of work in shops - *12/11/34, 3/12/34, 10/12/34.*
During erection on board vessel - *Dec 6, 8, 14, 17, 18, 27, 28, 29, 30, 27, last survey*
Total No. of visits *3 + 9 = 12.*

Dates of Examination of principal parts—Cylinders *12. 11. 34* Covers *12. 11. 34* Pistons *12. 11. 34* Rods *✓* Connecting rods *12. 11. 34*

Crank shaft *12. 11. 34* Flywheel shaft *✓* Thrust shaft *3/12. 34* Intermediate shafts *✓* Tube shaft *✓*

Screw shaft *8. 12. 34* Propeller *8. 12. 34* Stern tube *6. 12. 34* Engine seatings *6-12-34* Engines holding down bolts *17. 12. 34*

Completion of fitting sea connections *12-12-34* Completion of pumping arrangements *28-12-34* Engines tried *on Test bench* *10/12/34*

Crank shaft, Material *3. 17. Steel* Identification Mark *3430.* Flywheel shaft, Material *✓* Identification Mark *25/12/34*

Thrust shaft, Material *OH. 1/200 Steel* Identification Mark *3324* Intermediate shafts, Material *✓* Identification Marks *8199*

Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *Steel* Identification Mark *CTC 405448 HVB*

Is the flash point of the oil to be used over 150° F. *✓* AIR RECEIVERS *C7705* *762 LAL* *800485*

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *✓* *NP 405* *23-10-34* *13-12-34* *JP 405485*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *No* 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 *Chas. Hill's No 205.*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been constructed under special survey according to the Rules and approved plans and the materials and workmanship are sound and good.

The machinery will be eligible for the notation +L.M.C. with date when it has been efficiently installed on board, tried under working conditions and found satisfactory.

This machinery has now been fitted & secured on board according to the rules, tried under working conditions & found satisfactory.

The amount of Entry Fee .. £ 2 : 0 : When applied for, *5/11 1935*
Special *4/5* ... £ 12 : 0 : *15/12/34*
Donkey Boiler Fee ... £ 3 : 0 : *23/11 1935*
Travelling Expenses (if any) £ 3 : 14 : *(17. 14. 1)*

Committee's Minute *TUE. 5 MAR 1935*

Assigned *to Lmb 2.35 oil. Eng.*

L.R. Home
G. J. Champness
John W. Gwynne
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation