

# REPORT ON OIL ENGINE MACHINERY.

No. 16102

Received at London Office 18 APR 1946

Date of writing Report 10 April 1946 When handed in at Local Office 19 Port of Amsterdam  
No. in Survey held at den Helder & Amsterdam Date, First Survey 20 January Last Survey 27 March 1946  
Reg. Book. Number of Visits 6

Single ~~on the Twin~~ Triple Quadruple } Screw Vessel M.V. "HELENA" Tons } Gross 102 Net 109

built at Groningen By whom built J. Vos & Zonen Yard No. 80 When built 1934  
Engines made at Springendoom By whom made Brons & Molam fabri Engine No 660 When made 1934  
Monkey Boilers made at ✓ By whom made ✓ Boiler No. ✓ When made ✓  
Indicated Horse Power 105 Owners K. Pronk Port belonging to Groningen  
Nominal Horse Power as per Rule 30 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes  
Trade for which vessel is intended Coasting Service

MAIN ENGINES, &c.—Type of Engines Heavy oil engine 2 or 4 stroke cycle 4 Single or double acting single  
Maximum pressure in cylinders 45 kg/cm<sup>2</sup> Diameter of cylinders 280 mm Length of stroke 350 mm No. of cylinders 3 No. of cranks 3  
Indicated Pressure 5 kg/cm<sup>2</sup> Flywheel dia. 1400 mm Weight 1600 kg Means of ignition Compulsory Kind of fuel used Dual oil  
Pitch of bearings, adjacent to the Crank, measured from inner edge to inner edge 380 mm Is there a bearing between each crank yes  
Revolutions per minute 290

Crankshaft, { Solid forged as per Rule ✓ Crank pin dia 160 mm Crank Webs Mid. length breadth 210 mm shrunk Thickness parallel to axis ✓  
Semi built dia. of journals as fitted 160 mm Mid. length thickness 102.5 mm Thickness around eyehole ✓  
All built  
Crank Wheel Shaft, diameter as per Rule ✓ as fitted ✓ Clutch coupling Intermediate Shafts, diameter as per Rule ✓ as fitted 120 mm Thrust Shaft, diameter at collars as per Rule ✓ as fitted ✓  
Propeller Shaft, diameter as per Rule ✓ as fitted ✓ Screw Shaft, diameter as per Rule ✓ as fitted 120 mm Is the { tube } shaft fitted with a continuous liner { screw } no

Cylinder Liners, thickness in way of bushes as per Rule no liners 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  
If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades 3 Material bronze whether Moveable no Total Developed Surface sq. feet  
Method of reversing Engines Clutch Coupling Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication  
oil  
Thickness of cylinder liners 1.5 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with  
conducting material both If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine journal

Bilge Water Pumps, No. one from main engine one from stern engine Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes  
Suction Pumps worked from the Main Engines, No. one Diameter 50 mm Stroke 7.5 mm Can one be overhauled while the other is at work ✓  
Pumps connected to the Main Bilge Line } No. and Size one plunger pump main engine, general service pumps 1 wing pump direct  
How driven Belt driven from main & stern engine  
Is cooling water led to the bilges no If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping  
arrangements ✓

Fast Pumps, No. and size one centrifugal pump Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size  
Two independent means arranged for circulating water through the Oil Cooler no Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge  
Pumps, No. and size:—In Machinery Spaces 1-2" - 1-2 1/2" from wing pump direct In Pump Room ✓  
Folds, &c. 2-2"

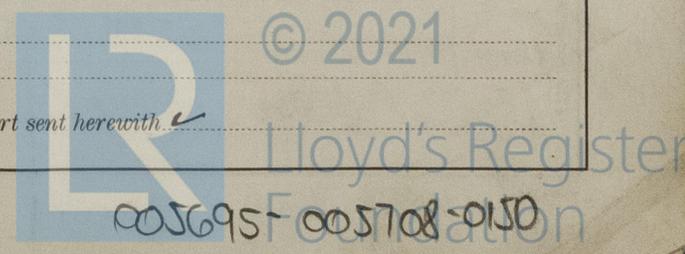
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-2 1/2" from wing pump  
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces  
from easily accessible mud-boxes, placed above the level of the 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 cocks  
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 ✓  
Do all pipes pass through the bunkers ✓ How are they protected ✓  
Do all 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 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,  
from one compartment to another yes Is the Shaft Tunnel watertight no Is it fitted with a watertight door ✓ worked from ✓  
If the vessel is a food vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Air Compressors, No. one No. of stages 2 Diameters Stroke Driven by  
Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters Stroke Driven by  
Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters Stroke Driven by  
Is provision made for first charging the Air Receivers. Auxiliary motor started by hand

Engining Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓  
Auxiliary Engines crank shafts, diameter as per Rule No. as fitted 60 mm Position  
Have the Auxiliary Engines been constructed under special survey no Is a report sent herewith ✓



**AIR RECEIVERS:**—Have they been made under survey *no* State No. of Report or Certificate *✓*  
 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 *by Rules* *✓*  
 Actual *✓*

**Starting Air Receivers,** No. *3* Total cubic capacity *3 x 95 L* Internal diameter *253 mm* thickness *7 mm*  
 Seamless, lap welded or riveted longitudinal joint *Seamless* Material *S.M.S.* Range of tensile strength Working pressure *by Rules* *✓*  
 Actual *✓*

**IS A DONKEY BOILER FITTED?** *no* If so, is a report forwarded? *✓*  
 Is the donkey boiler intended to be used for domestique purposes only *✓*

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

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied *✓*  
 State the principal additional spare gear supplied *1 main cylinder cover, 1 piston complete, 1 set of bottom end brasses with bolts, 1 ball bearing for thrust shaft, 2 bearing bolts & assorted bolts*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - }  
 { During erection on board vessel - - }  
 Total No. of visits *✓*  
 Dates of Examination of principal parts—Cylinders *5-3-46* Covers *5-3-46* Pistons *5-3-46* Rods *✓* Connecting rods *5-3-46*  
 Crank shaft *3-3-46* Flywheel shaft *✓* Thrust shaft *✓* Intermediate shafts *✓* Tube shaft *✓*  
 Screw shaft *✓* Propeller *✓* Stern tube *✓* Engine seatings *✓* Engines holding down bolts *✓*  
 Completion of fitting sea connections *✓* Completion of pumping arrangements *✓* Engines tried under working conditions *✓*  
 Crank shaft, Material Identification Mark *✓* Flywheel shaft, Material Identification Mark *✓*  
 Thrust shaft, Material Identification Mark *✓* Intermediate shafts, Material Identification Marks *✓*  
 Tube shaft, Material Identification Mark *✓* Screw shaft, Material Identification Mark *✓*  
 Identification Marks on Air Receivers *✓*

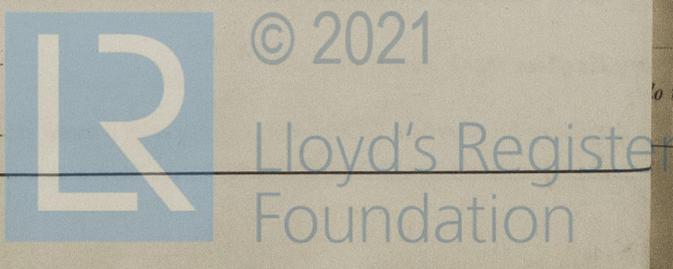
Is the flash point of the oil to be used over 150° F *yes*  
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *yes*  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *no* If so, have the requirements of the Rules been complied with *✓*  
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *no*  
 Is this machinery duplicate of a previous case *no* If so, state name of the vessel *✓*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The Machinery has been built to the G.I. requirements. The Machinery have been completely opened up & found good. 2 Auxiliary engines - G.I. to class. C.I. 1st class dynamo's. General service pump and bilge pump overhauled in workshop & good. Tail shaft drawn & found. Seacocks in & good. Propeller & fastenings good. Tested main & Auxiliary engines found working good. Megger test held found as per rules. Electric light tested & good. The Machinery is in our opinion eligible for the record of I.M.C. 3-46 in the Society's Register book on 1.1.1946 on T.S. 3-46*

The amount of Entry Fee .. £ : : When applied for,  
 Special *reman* ... £ 300 - : : 15-4-1946  
 Donkey Boiler Fee ... £ : : When received,  
 Travelling Expenses (if any) £ 51 - : : 19-4-1946

*P. F. Willemse*  
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **FRI. 9 AUG 1946**  
 Assigned **LMC 3,46 Oil Eng Subject**



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