

GENERAL REMARKS—(The Surveyor should state the Number of Report and Name of any Sister Vessel. Plans showing Vessel as built should be forwarded and a List of the Plans should be embodied.)

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 19584.

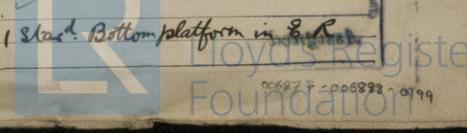
Received at London Office MAY 28 1938

Date of writing Report 26th May 1938 When handed in at Local Office 24th May 1938 Port of Leith
 No. in Survey held at Leith Date, First Survey 12th Oct 1934 Last Survey 20th May 1938
 Reg. Book. 16950 on the Single Twin Triple Quadruple Motor Screw vessel "A. A. COWAN" Gross Tons 295 Net Tons 133
 Number of Visits 20

Built at Leith By whom built Henry Robb & Co. Yard No. 242 When built 1938
 Engines made at Leith By whom made Humboldt-Deutzmaschinen A.G. Engine No. 419570/45 When made 1938
 Donkey Boilers made at Leith By whom made Leith Boiler No. 419576/51 When made 1938
 Brake Horse Power 360 Owners United Africa Co. Ltd. Port belonging to London
 Nom. Horse Power as per Rule 104 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended Coastal Service

OIL ENGINES, &c.—Type of Engines 2 or 4 stroke cycle Single or double acting

Maximum pressure in cylinders _____ Diameter of cylinders _____ Length of stroke _____ No. of cylinders _____ No. of cranks _____
 Mean Indicated Pressure _____ Is there a bearing between each crank _____
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge _____
 Revolutions per minute Not furnished Weight _____ Means of ignition _____ Kind of fuel used _____
 Crank Shaft, dia. of journals _____ as per Rule _____ as fitted _____ Crank pin dia. _____ Crank Webs _____ Mid. length breadth _____ Mid. length thickness _____ Thickness parallel to axis _____ Thickness around eye-hole _____
 Flywheel Shaft, diameter _____ as per Rule _____ as fitted _____ Intermediate Shafts, diameter _____ as per Rule _____ as fitted _____ Thrust Shaft, diameter at collars _____ as per Rule _____ as fitted _____
 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 No
 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 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 1'-4 1/2"
 Propeller, dia. 4'-9" Pitch Varying No. of blades 4 Material Bronze whether Movable No Total Developed Surface 4.78 sq. feet
 Method of reversing Engines _____ Is a governor or other arrangement fitted to prevent racing of the engine when declutched _____ Means of lubrication _____
 Thickness of cylinder liners _____ Are the cylinders fitted with safety valves _____ Are the exhaust pipes and silencers water cooled or lagged with non-conducting material _____ If the exhaust pipes are water cooled, what means are arranged to prevent water from being syphoned back to the engine See Dsf. Rpt. No. 172
 Cooling Water Pumps, No. _____ 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. 1 each of Diameter 100"/4 Stroke 60"/4. Can one be overhauled while the other is at work Yes
 Pumps connected to the Main Bilge Line _____ No. and Size 1-35 tons/hr capacity How driven Auxiliary Engine
 Is the 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 _____
 Ballast Pumps, No. and size 1-20 tons/hr capacity Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size See Dsf. Rpt. No. 172
 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 Port for 1-2" Star for 1-2" Aft Centre 1-2" In Pump Room _____
 In Holds, &c. No 1 held Port 1-2 1/2" Star 1-2 1/2" Centre 1-2 1/2" No 2 held Port 1-2 1/2" Star 1-2 1/2" Centre 1-2 1/2"
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-2 1/2" from B.S. Pumps, 1-2 1/2" for C.W. 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 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 which are fitted to sumps _____ Are they fitted with Valves or Cocks Valves
 Are they sized 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 On W.L.
 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 _____
 What pipes pass through the bunkers None How are they protected _____
 What pipes pass through the deep tanks None 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, or from one compartment to another Yes 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 12 1/2"/4 1/2" Stroke 40"/4 Driven by Aux. Eng.
 Auxiliary Air Compressors, No. See Dsf. Rpt. No. 172 No. of stages _____ Diameters 14 1/2" Stroke _____ Driven by _____
 Small Auxiliary Air Compressors, No. one No. of stages 2 Diameters 10 1/2"/4 1/2" Stroke 60"/4 Driven by Aux. Eng.
 Scavenging Air Pumps, No. _____ Diameter _____ Stroke _____ Driven by _____
 Auxiliary Engines crank shafts, diameter _____ as per Rule _____ as fitted _____ No. Two Position Port, 1 Star, Bottom platform in E. Room



AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined and cleaned. Is a drain fitted at the lowest part of each receiver

High Pressure Air Receivers, No. Cubic capacity of each Internal diameter thickness
Seamless, lap welded or riveted longitudinal joint. Range of tensile strength Working pressure by Rules Actual

Starting Air Receivers, No. Total cubic capacity Internal diameter thickness
Seamless, lap welded or riveted longitudinal joint. Material Range of tensile strength Working pressure by Rules Actual

IS A DONKEY BOILER FITTED? No. If so, is a report now forwarded?
Are approved plans forwarded herewith for Shafting, Stern gear, Receivers, Separate Fuel Tanks

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? yes.
State the principal additional spare gear supplied? yes.

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 20.

Dates of Examination of principal parts—Cylinders, Covers, Pistons, Rods, Connecting rods, Crank shaft, Flywheel shaft, Thrust shaft, Intermediate shafts, Tube shaft

Screw shafts in place 13/11/37, Propellers in place 24/3/38, Stern tubes in place 29/10/37, Engine seatings 5-11-37, Engines holding down bolts 5-2-38, Completion of fitting sea connections 30-11-37, Completion of pumping arrangements 28-3-38, Engines tried under working conditions at sea 20-5-38

Crank shaft, Material, Identification Mark, Flywheel shaft, Material, Identification Mark, Intermediate shafts, Material, Identification Marks, Tube shaft, Material, Identification Mark, Screw shaft, Material, Identification Mark

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 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/V Joseph Flint"

General Remarks (State quality of workmanship, opinions as to class, etc.)
This machinery - Dsf Rpt No 142 for Main Engines, + Dsf Rpts No 169 + 171 for the Aux? Engines - has been efficiently fitted on board, the materials + workmanship being sound + good.

In my opinion the machinery of this vessel is eligible to be classed in the Register Book with the notation of + L.M.C 5-38, Oil Eng.
The amount of Entry Fee, Special 1/5 L.M.C, Donkey Boiler Fee, Travelling Expenses (if any)

John Houston, Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute Assigned Lamb 5.38 oil 2/2

for London

Rpt. 4b. Comm. 684532 Comm. 684533

REPORT ON OIL ENGINE MACHINERY.

No. 172.

Received at London Office MAY 28 1938

Date of writing Report 19.5. 1937. When reported in at Local Office 21.5. 1937. Port of Dusseldorf.
No. in Survey held at Cologne Date, First Survey 13.1.1937. Last Survey 14.5. 1937.

16950 on the Twin Screw vessel "A. A. Cowan"
Hy. Robb (Ld.) (Incorporating Ramage & Ferguson (Ld.) Yard No. 419570/75 When built 1937

Engines made at By whom made Humboldt-Deutzmotoren AG. Engine No. 419576/81 and when made 1937

Donkey Boilers made at By whom made Owners United Africa Co Ltd Port belonging to London

Brake Horse Power 2 x 180 BHP Owners United Africa Co Ltd
Nom. Horse Power as per Rule 2 x 52 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted yes

Trade for which vessel is intended 97 14 3/76
OIL ENGINES, &c. Type of Engines Heavy oil engines R.V.6 M 436 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 50 kgs/cm² Diameter of cylinders 240 mm Length of stroke 360 mm No. of cylinders 6 No. of cranks 6
Mean Indicated Pressure 6.6 kgs/cm²

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 257 mm Is there a bearing between each crank yes
Revolutions per minute 300 Flywheel dia. 1000 mm Weight 1050 kgs. Means of ignition sol. inject. Kind of fuel used on test bed gas oil

Crank Shaft, dia. of journals as per Rule 150 mm Crank pin dia. 145 mm Crank Webs Mid. length breadth 260 mm Thickness parallel to axis 64 mm Thickness around eyehole
Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule as fitted

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube 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 directly by hand Is a governor or other arrangement fitted to prevent racing of the engine when decelerated yes Means of lubrication forced

Thickness of cylinder liners 18 mm Are the cylinders fitted with safety valves at present Are the exhaust pipes and suction pipes water cooled or lagged with non-conducting material water cooled 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 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 100 mm Stroke 60 mm Can be overhauled while the other is at work yes

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.

Main engine Capacity 36 lts/min. at 840 rev. per min. 1 tooth wheel pump & 1 spare of same type
Ballast Pumps, No. and size Driven Lubricating Oil Pumps, including Spare Pump, No. and size

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

In Holds, &c. 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 bunks 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. No. of stages Diameters Stroke Driven by
Auxiliary Air Compressors, No. one No. of stages two Diameters 145/60 mm Stroke 60 mm Driven by main engine
Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by
Scavenging Air Pumps, No. Diameter Stroke Driven by
Auxiliary Engines crank shafts, diameter as per Rule as fitted No. Position

