

REPORT ON OIL ENGINE MACHINERY

Received at London Office FEB 14 1938

When handed in at Local Office 11. 12. 1937 Port of Glasgow Date, First Survey 11. Mar 1937 Last Survey 6. Dec 1937

Survey held at Messrs Henry Robb Leith No. 245 m/v "Kahika" Tons Gross Net

Built at Leith By whom built Messrs Henry Robb Yard No. 245 When built 1937 Engines made at Glasgow By whom made Messrs British Auxiliary Engine No. 264 When made 1937 Donkey Boilers made at By whom made Boiler No. When made Brake Horse Power 1280 Owners Union Steamships Co of New Zealand Port belonging to Melbourne Nom. Horse Power as per Rule 250 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted yes Trade for which vessel is intended 13 3/8 22 7/8

Oil Engines, &c. Type of Engines Heavy Oil M. 44 M. 2 or 4 stroke cycle 2 Single or double acting Single Maximum pressure in cylinders 782 lb/sq in Diameter of cylinders 340 mm Length of stroke 570 mm No. of cylinders 4 No. of cranks 4 Mean Indicated Pressure 99.5 lb

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 484 mm Is there a bearing between each crank yes Revolutions per minute 250 Flywheel dia. 1550 mm Weight 4460 lb 1995 mm Means of ignition Compression Kind of fuel used Diesel

Crank Shaft, dia. of journals as per Rule 211 mm as fitted 220 mm Crank pin dia. 220 mm Crank Webs Mid. length breadth 308 mm Thickness parallel to axis shrunk Mid. length thickness 122 mm Thickness around eyehole Flywheel Shaft, diameter as per Rule 211 mm as fitted 260 mm Intermediate Shafts, diameter as per Rule 137 mm as fitted Thrust Shaft, diameter at collars as per Rule 144 mm as fitted 260 mm

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 detached yes Means of lubrication Forced Thickness of cylinder liners 25.5 mm 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

Cooling Water Pumps, No. 1 @ 120 mm x 140 mm D.A. 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 each engine Diameter 90 mm Stroke 140 mm Can one 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

Ballast Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 235 litre per Min each engine 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 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 each engine No. of stages Two Diameters L.P. 175 mm H.P. 70 Stroke 350 mm 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

Scavenging Air Pumps, No. One on each engine Diameter 770 mm Stroke 350 mm Driven by Main Engines Auxiliary Engines crank shafts, diameter as per Rule as fitted No. Position



L100-2811M

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. 4 Cubic capacity of each 800 liters each Internal diameter 2 5/2" thickness 9/16"
 Seamless, lap welded or riveted longitudinal joint riveted Material steel Range of tensile strength 28/32 tons Working pressure 392
 Starting Air Receivers, No. 4 Total cubic capacity 800 liters each Internal diameter 2 5/2" thickness 9/16"
 Seamless, lap welded or riveted longitudinal joint riveted Material steel Range of tensile strength 28/32 tons Working pressure 355

IS A DONKEY BOILER FITTED? 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 2-11-35 Receivers 9-3-36 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 Yes.
 State the principal additional spare gear supplied See attached list

The foregoing is a correct description, **BRITISH AUXILIARIES, LIMITED,**

[Signature]
 Manufacturer.
MANAGER.

Dates of Survey while building { During progress of work in shops-- } 1937 Mar: 11 June: 2, 15, 23, 30 July: 7 Aug: 6, 16, 30 Sep: 14, 23, 30 Oct: 5, 7, 18, 19, 20
 { During erection on board vessel-- } 25, 27, 28 Nov: 5, 9, 17, 25, 29 Dec: 2, 3, 6
 Total No. of visits 29

Dates of Examination of principal parts—Cylinders 23-10-36 (FR) Covers 28-10-37 Pistons 16-8-37 Rods 28-10-37 Connecting rods 28-10-37
 Crank shaft 12-2-37 (FR) Flywheel shaft and Thrust shaft 27-11-36 (FR) Intermediate shafts 19-4-37 (FR)
 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 steel Identification Mark 9671 P.K. 23-10-36 Flywheel shaft, Material and Thrust Identification Mark ✓
 Thrust shaft, Material steel Identification Mark 7284 MAB 27-11-36 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
 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.V. Plover Gls. report 56900

General Remarks (State quality of workmanship, opinions as to class, &c. These engines have been built under Special Survey and in accordance with the Rules. The materials and workmanship are good. On completion they have been tested on the bench at full power with satisfactory results.
The engines are eligible in our opinion to be classed in the Register Book with the notation L.M.C. with date, when they have been secured in position on board, and tried under working conditions.
They have been shipped to Leith for fitting on board.
11/12/37

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

The amount of Entry Fee .. £ 4 : 0 : 0
 4% Special £ 50 : 0 : 0
 Leith 4% 1/8 £ 12 : 10 : 0
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :
 Committee's Minute **GLASGOW 14 DEC 1937**

When applied for, **14 DEC 1937**

When received, 21/2 19 38

[Signature] & *[Signature]*
 Engineer Surveyors to Lloyd's Register of Shipping.
FRI. 18 FEB 1938



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Assigned Deferred