

## REPORT ON OIL ENGINE MACHINERY.

No. 591 517

Received at London Office

FEB 14 1938

Date of writing Report

When handed in at Local Office

11. 12. 1937

Port of Glasgow

Date, First Survey 11. Mar 1937 Last Survey 6th Dec 1937

Number of Visits 29

No. in Survey held at

Reg. Book.

8880 on the Single Screw vessel Messrs Henry Robt Leith No. 245 M/V "Kahika"

Tons

Gross

Net

Built at Leith By whom built Messrs Henry Robt 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, &amp;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 M. Length of stroke 570 M. No. of cylinders 4 No. of cranks 4

Mean Indicated Pressure 99.5 lb/sq. in. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 484 M. Is there a bearing between each crank yes

Revolutions per minute 250 Flywheel dia. 1550 M. Weight 4460 lb. 1995 lb. Means of ignition Compression Kind of fuel used Diesel

Crank Shaft, dia. of journals as per Rule 211 M. as fitted 220 M. Crank pin dia. 220 M. Crank Webs Mid. length breadth 308 M. Thickness parallel to axis shrunk Thickness around eyehole

Flywheel Shaft, diameter as per Rule 211 M. as fitted 260 M. Intermediate Shafts, diameter as per Rule 137 M. as fitted Thrust Shaft, diameter at collars as per Rule 144 M. as fitted 260 M.

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 M. 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 M. x 140 M. 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 M. Stroke 140 M. 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, &amp;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 M. H.P. 70 Stroke 350 M. 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 each engine Diameter 770 M. Stroke 350 M. Driven by Main Engines

Auxiliary Engines crank shafts, diameter as per Rule as fitted No. Position



**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. *✓* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*  
Seamless, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure *✓*  
Starting Air Receivers, No. *4* Total cubic capacity *800 litres* Internal diameter *25 1/2"* thickness *9/16"*  
Seamless, lap welded or riveted longitudinal joint *✓* Material *steel* Range of tensile strength *28/32 tons* Working pressure *392*  
Actual *355*

**IS A DONKEY BOILER FITTED?**

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

If so, is a report now forwarded? *✓*

**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 *28/10/37* Covers *28/10/37* Pistons *16/8/37* Rods *✓* Connecting rods *28/10/37*  
Crank shaft *23/10/36 (FR)* Flywheel shaft *and* Thrust shaft *27/11/36 (FR)* 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 *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 *7251 MAB* 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*

The amount of Entry Fee .. £ 4 : 0 : 0

*45* Special ... .. £ 50 : 0 : 0

*12* Donkey Boiler Fee ... .. £ 12 : 10 : 0

Travelling Expenses (if any) £ : : :

Committee's Minute **GLASGOW 14 DEC 1937**

Assigned *Deferred*

When applied for, **14 DEC 1937**

When received, *21/2 19 38*

**FRI 18 FEB 1938**

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

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