

Rpt. 4b

REPORT ON OIL ENGINE MACHINERY.

No. 8559

Received at London Office

10 APR 1926

Date of writing Report *8th April 1926* When handed in at Local Office *9th April 1926* Port of *Dundee*
 No. in Survey held at *Montrose* Date, First Survey *3rd Nov 1926* Last Survey *6th April 1926*
 Req. Book. Number of Visits

on the *Single* Screw vessels "*KYBRA*" Tons *Gross 858*
Triple *Net 440*
 Built at *Montrose* By whom built *The Coastal Construction Co. Ltd* Yard No. *124* When built *1926*
 Engines made at *Winterthur* By whom made *Sulzer Bros.* Engine No. *5517* When made *1926*
 Donkey Boilers made at *-* By whom made *-* Boiler No. *-* When made *-*
 Brake Horse Power *780* Owners *West Australia. The State Shipping Service* Port belonging to *Fremantle*
 Nom. Horse Power as per Rule *233* Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *Yes*

OIL ENGINES, &c. Type of Engines *Sulzer Diesel* 2 or 4 stroke cycle *2* Single or double acting *Single*
 Maximum pressure in cylinders *38 ATs* No. of cylinders *6* Diameter of cylinders *380 mm* No. of cranks *6* Length of stroke *660 mm*
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge Is there a bearing between each crank
 Revolutions per minute *170* Flywheel dia. Weight Means of ignition Kind of fuel used
 Crank Shaft, dia. of journals *as per Rule* Crank pin dia. Crank Webs *Mid. length breadth* Thickness parallel to axis
as fitted *Mid. length thickness* *shrunk* Thickness around eye-hole
 Flywheel Shafts, diameter *as per Rule* Intermediate Shafts, diameter *as per Rule* *183 mm* Thrust Shaft, diameter at collars *as per Rule*
as fitted *as fitted* *8 1/4" dia* *as fitted*
 Tube Shafts, diameter *as per Rule* Screw Shaft, diameter *as per Rule* *7.99* Is the *shaft* fitted with a continuous liner
as fitted *as fitted* *8 3/4"* *screw* *Yes*
 Bronze Liners, thickness in way of bushes *as per Rule* *.5* Thickness between bushes *as per rule* *.42* Is the after end of the liner made watertight in the
as fitted *1/2 Full* *as fitted* *7/32" Full* 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 *one length*

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. Lignum vitae Bush* Length of Bearing in Stern Bush next to and supporting propeller *49"*
 Propeller, dia. *9' 6"* Pitch *8' 0"* No. of blades *4* Material *Bronze* whether Moveable *no* Total Developed Surface *28.6* sq. feet
 Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine *when disclutched* Means of lubrication
 Thickness of cylinder liners Are the cylinders fitted with safety valves *Yes* Are the exhaust pipes and silencers water cooled or lagged with
 non-conducting material *Yes* If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine *up funnel*
 Cooling Water Pumps, No. *Two* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *Yes*

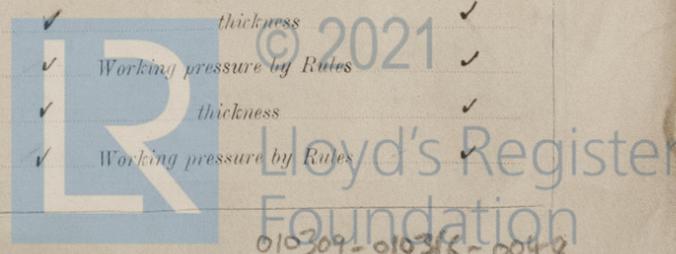
Bilge Pumps fitted to the Main Engines, No. *None* Diameter *-* Stroke *-* Can one be overhauled while the other is at work
 Pumps connected to the Main Bilge Line { No. and Size *1 Bilge & 1 Ballast Pumps. Vertical Centrifugal Type (Snydale) 4" suction*
 How driven *Electric*
 Ballast Pumps, No. and size *1. Vertical Centrifugal. 4" Suction* Lubricating Oil Pumps, including Spare Pump, No. and size
 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 Engine Room 2 @ 2 1/2"*
 In Holds, &c. *Deep Tank 2 @ 2 1/2" : No 2 Hold 2 @ 2 1/2" : No 1 Hold 2 @ 2 1/2"*

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *2 @ 4"*
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Space
 led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges *as per approved plan.*
 Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves *Yes*
 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 *Below*
 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 *None (No Boilers)*
 What pipes pass through the bunkers *None* How are they protected *-*
 What pipes pass through the deep tanks *Bilge suction pipes to No 1 & 2 Holds* Have they been tested as per Rule *Yes*

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 *Yes* Is it fitted with a watertight door *Yes* worked from *Upper Platform in Eng Room*
 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. No. of stages Diameters Stroke Driven by
 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*

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 What means are provided for cleaning their inner surfaces
 Is there a drain arrangement fitted at the lowest part of each receiver
 High Pressure Air Receivers, No. *4* Cubic capacity of each Internal diameter thickness
 Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules
 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



IS A DONKEY BOILER FITTED? *No* ✓

If so, is a report now forwarded? ✓

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS					
" " COVERS					
" " JACKETS.....					
" " PISTON WATER PASSAGES.....					
MAIN COMPRESSORS—1st STAGE.....					
" " 2nd "					
" " 3rd "					
AIR RECEIVERS—STARTING					
" " INJECTION					
AIR PIPES	} 197 22/3/26	75 atmos	2100	L.R.	Tests satisfactory
FUEL PIPES		"	"	"	
FUEL PUMPS					
SILENCER					
" " WATER JACKET					
SEPARATE FUEL TANKS	30 th Dec 1926	✓	20 lbs	L.R. J.E.S.	—

PLANS. Are approved plans forwarded herewith for Shafting Receivers Separate Tanks *with P. Ship Report*
 Donkey Boilers *none* ✓ General Pumping Arrangements *Yes* ✓ Oil Fuel Burning Arrangements

SPARE GEAR 1 Cast iron propeller, assorted iron bars, nuts & bolts: and other spares as per attached list. ✓

The foregoing is a correct description.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - }
 { During erection on board vessel - - } 1925. NOV 3-16-24. DEC 1-23-30. 1926. JAN 11-13-20-26. FEB 2-10-16-23. MAR 2-9-16-19-22-30. APR 1-6.
 Total No. of visits 22.

Dates of Examination of principal parts—Cylinders ✓ Covers ✓ Pistons ✓ Rods ✓ Connecting rods ✓
 Crank shaft ✓ Flywheel shaft ✓ Thrust shaft ✓ Intermediate shafts 26-1-26 Tube shaft ✓
 Screw shaft 24-11-25 Propeller 3-11-25 Stern tube 16-12-25 Engine seatings 13-1-26 Engines holding down bolts 9-3-26
 Completion of fitting sea connections 23-12-25 Completion of pumping arrangements 6-4-26 Engines tried under working conditions 1-4-26
 Crank shaft, Material ✓ Identification Mark ✓ Flywheel shaft, Material ✓ Identification Mark LLOYD'S NO 435/6
 Thrust shaft, Material ✓ Identification Mark ✓ Intermediate shafts, Material *Steel* ✓ Identification Marks H.Y.B.
 Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material *Iron* ✓ Identification Mark LLOYD'S NO 4685 C.M.

Is the flash point of the oil to be used over 150° F. *Yes* ✓
 Is this machinery duplicate of a previous case *No* ✓ If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. *These engines and auxiliaries have been fitted on board in an efficient manner, tried under working conditions and found satisfactory and are eligible in my opinion to be classed with record of +L.M.C. 4-26.*)

The fuel oil transfer pumps (supplied by Messrs Sulzer Bros) for the daily service settling tanks were found inefficient. A plunger pump 3 1/2" diameter 4 1/2" stroke 100 revolutions, driven by a 1/2 H.P. electric motor has now been fitted by Messrs The Coaster Construction Co, for the voyage to Australia. This pump has been tried & found capable of delivering 9/10 fathoms a minute to the service. In an emergency both the Bilge & Ballast Pumps can also be used for this purpose. Arrangements have also been made by Messrs Sulzer to supply new pumps for fitting on board on the vessel's arrival in Australia.

The amount of Entry Fee ... £
 Special ... £
 Donkey Boiler Fee ... £
 Travelling Expenses (if any) £

When applied for, 19
 When received, 19

H. Keller
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 16 APR 1926

Assigned

+ L.M.C. 4:26 C.R.
Oil engines



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