

REPORT ON OIL ENGINE MACHINERY.

No. 59572

APR 13 1938

Received at London Office

Port of Glasgow

When handed in at Local Office

Date, First Survey 7th Apr 1937 Last Survey 30th Mar 1938

Number of Visits 77

Survey held at Glasgow

on the Single Twin Triple Quadruple Screw vessel

"KOOLAMA"

Tons { Gross 4026
Net 2213

at Glasgow

By whom built Harland & Wolff Ltd Yard No. 1003 When built 1938

engines made at Glasgow

By whom made Harland & Wolff Ltd Engine No. 1003 When made 1938

Boilers made at

By whom made ✓ Boiler No. ✓ When made ✓

Horse Power 3500/3900

Owners GOVERNMENT OF WESTERN AUSTRALIA Port belonging to FREMANTLE

Horse Power as per Rule 808

Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes

for which vessel is intended

Australian Coast

ENGINES, &c.—Type of Engines Solid injection 2 or 4 stroke cycle 3 Single or double acting S.A.

Working pressure in cylinders 700 lb sq in Diameter of cylinders 500 mm Length of stroke 900 mm No. of cylinders 6 No. of cranks 6

Indicated Pressure 100 lb sq in Is there a bearing between each crank yes

Distance between bearings, adjacent to the Crank, measured from inner edge to inner edge 698 mm Means of ignition Compression Kind of fuel used Diesel oil

Revolutions per minute 140/146 Flywheel dia. 1654 mm Weight 1000 kg Mid. length breadth 800 mm Thickness parallel to axis 208 mm

Shaft, dia. of journals as per Rule 323 mm Crank pin dia. 340 mm Crank Webs shrunk Mid. length thickness 208 mm Thickness around eyehole 155 mm

Steel Shaft, diameter as per Rule 323 mm Intermediate Shafts, diameter as per Rule 9.623" Thrust Shaft, diameter at collars as per Rule 10.1"

Shaft, diameter as fitted Screw Shaft, diameter as per Rule 10.623" Is the tube screw shaft fitted with a continuous liner yes

Liner, thickness in way of bushes as per Rule .621" Thickness between bushes as per rule .465" Is the after end of the liner made watertight in the stern boss yes

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ✓

Does the liner do 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 ✓

When 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 ✓

Length of Bearing in Stern Bush next to and supporting propeller 48"

Propeller, dia. 12'-0" Pitch 12'-4" No. of blades 3 Material Brass whether Moveable no Total Developed Surface 42 sq. feet

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when disconnected yes Means of lubrication ✓

Thickness of cylinder liners 332 + 25 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with insulating 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 ✓

Number of Bilge Pumps, No. 3 Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Pumps worked from the Main Engines, No. ✓ Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

Pumps connected to the Main Bilge Line { No. and Size 1 Bilge, 70 tons per hour; 1 Ballast, 150 tons per hour; 1 General Service, 50 tons per hour

How driven Electric Motors 1 Emergency Bilge, 50 tons per hour

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 ✓

Oil Pumps, No. and size One 6" Rotary Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Two 7" Rotary

Are there any 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 4 @ 3" / 4 @ 2 1/2" Tunnel, 3 @ 3" In Pump Room ✓

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 3 @ 4 1/2" / 1 @ 6" Tunnel 1 @ 4 1/2"

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 both

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 ✓

How are they protected ✓

Do pipes pass through the bunkers ✓ Have they been tested as per Rule ✓

Do pipes pass through the deep tanks ✓

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes

Is there any 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 Bridge

On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓

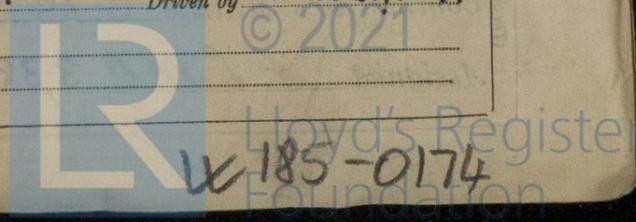
Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 90 cu. ft. air per minute Stroke ✓ Driven by Elec. Motor

Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 2 3/4 x 1 1/8" Stroke 3" Driven by Hand

Engining Air Pumps, No. 2 off each engine Diameter 100 cu. metres per minute each Stroke ✓ Driven by Main engines

Auxiliary Engines crank shafts, diameter as per Rule 139.4 mm as fitted 180 mm



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 _____ by Rules _____ Actual _____

MANOEUVERING
Starting Air Receivers, No. *2* Total cubic capacity *700 cu ft* Internal diameter *5'-10 5/16"* thickness *Shell 1" Ends 1 1/2"* by Rules *356 46 17* Actual *356*

Seamless, lap welded or riveted longitudinal joint *Riveted* Material *steel* Range of tensile strength *Ends 26/32* Working pressure _____ by Rules _____ Actual _____

IS A DONKEY BOILER FITTED? *No.* 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 *yes* Receivers *yes* Separate Tanks *yes*

Donkey Boilers *✓* General Pumping Arrangements *yes* Oil Fuel Burning Arrangements *yes*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes*

State the principal additional spare gear supplied *as per attached list.*

The foregoing is a correct description,
FOR HARLAND AND WOLFF, LIMITED
Wm. J. Wright Manufacturer.

Finneston Secretary

Dates of Survey while building
 During progress of work in shops-- *1937 Apr: 7. 15. 20. 29 May: 10. 17. 19. 24 July: 5 Aug: 2. 4. 5. 6. 13. 18. 20. 24 Sep: 16. 21*
 During erection on board vessel-- *30 Oct: 4. 6. 12. 13. 18. 19. 25. 26. 27 Nov: 3. 4. 12. 15. 16. 19. 23. 24. 25. 29. 30 Dec: 2. 6. 7. 9. 13. 23*
 Total No. of visits *77* *24. 30. 31 (1938) Jan: 7. 12. 14. 17. 19. 21. 24. 28. 31 Feb: 2. 4. 14 Mar: 3. 4. 8. 11. 14. 15. 17. 18. 21. 22*

Dates of Examination of principal parts—Cylinders *30-12-37* Covers *14-1-38* Pistons *19-1-38* Rods *✓* Connecting rods *19-1-38*

Crank shaft *S. 3-11-37* Flywheel shaft *✓* Thrust shaft *S. 3-11-37* Intermediate shafts *25-10-37* Tube shaft *✓*

Screw shafts *18-10-37* Propeller *25-10-37* Stern tube *25-10-37* Engine seatings *6-12-37* Engines holding down bolts *8-3-38*

Completion of fitting sea connections *6-12-37* Completion of pumping arrangements *22-3-38* Engines tried under working conditions *30-3-38*

Crank shaft, Material *Steel* Identification Mark *1003 P.F.* Flywheel shaft, Material *✓* Identification Mark *7028. 7029. 7017*

Thrust shaft, Material *Steel* Identification Mark *839 L.C.D. 7114* Intermediate shafts, Material *Steel* Identification Marks *7018. 7056. 7057*

Tube shaft, Material *✓* Identification Mark *840 P.F.* Screw shaft, Material *Steel* Identification Mark *6737 L.C.D. 6754 L.C.D. (spare) 6758 L.C.D.*

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 *✓*

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.)

The machinery of this vessel has been built under Special Survey and in accordance with the approved plans and the Rules of this Society.

The materials and workmanship are good.

The machinery has been efficiently installed in position on board the vessel and afterwards tried under full working conditions with satisfactory results.

The machinery is eligible in my opinion to be classed in the Register Book with notation of + L.M.C 3.38. C.L.

5/4/38

The amount of Entry Fee .. £	6 : -	When applied for,	
Special £	115 : 8	6. 14. 19. 38	
Donkey Boiler Fee £	:	When received,	
Travelling Expenses (if any) £	:	4. 5. 19. 38	£15.5

P. Fitzgerald & S. E. Murdoch
 Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 12 APR 1938**

Assigned *+ L.M.C 3.38.*



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