

REPORT ON OIL ENGINE MACHINERY.

No. 46230

12 JAN 1927

Received at London Office

Date of writing Report 30th Dec. 1926 When handed in at Local Office 31st Dec. 1926 Port of GLASGOW.

No. in Survey held at Glasgow Date, First Survey 15th Feby 1926 Last Survey 24th Dec. 1926

Reg. Book. SUPP. 29662 on the Single } Screw vessels "KOOLINDA" Tons { Gross 4372 Net 2281

Master Built at Glasgow By whom built Harland & Wolff Ltd. No. 7284. When built 1926-12.

Engines made at Glasgow By whom made Harland & Wolff Ltd. Engine No. 728. When made 1926-12.

Donkey Boilers made at None By whom made Boiler No. When made

Brake Horse Power 4,000 Owners Western Australian Government Port belonging to Fremantle

Horse Power as per Rule 830 Is Refrigerating Machinery fitted for cargo purposes Not classed. Is Electric Light fitted Yes

ENGINES, &c. Type of Engines Vertical Reciprocating Diesel 2 or 4 stroke cycle 4 Single or double acting Single

um pressure in cylinders 500 lb./in.² No. of cylinders 16 No. of cranks 16 Diameter of cylinders 590 mm.

of stroke 1200 mm. Revolutions per minute 140 Means of ignition Compression Kind of fuel used Diesel oil.

a bearing between each crank Yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 820 mm.

e between centres of main bearings 1160 mm. Is a flywheel fitted Yes Diameter of crank shaft journals as per Rule 384 mm. as fitted 390 mm.

er of crank pins 390 mm. Breadth of crank webs as per Rule 720 mm. as fitted 740 mm. Thickness of ditto as per Rule 240 mm. as fitted 250 mm.

er of flywheel shaft as per Rule 384 mm. as fitted 390 mm. Diameter of tunnel shaft as per Rule 10.86" as fitted 10.58" Diameter of thrust shaft as per Rule 11.4" as fitted 11.4"

er of screw shaft as per Rule 11.4" as fitted 11.4" Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes

fter end of the liner made watertight in the propeller boss Yes If the liner is in more than one length are the joints burned Yes

liners are fitted, is the shaft lapped or protected between the liners Yes If without liners, is the shaft arranged to run in oil Yes

outer gland fitted to stern tube None Length of stern bush 4'-6" Diameter of propeller 11'-4"

f propeller 13'-0" No. of blades 4 each propeller state whether moveable No Total surface 40 (each) square feet

of reversing Air Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Thickness of cylinder liners 34.3 mm. top 32.5 mm. bottom

cylinders fitted with safety valves Yes Means of lubrication forced Are the exhaust pipes and silencers water cooled or lagged with Insulating material Yes

led up funnel. No. of cooling water pumps four Is the sea suction provided with an efficient strainer which can be cleared Yes

the vessel No. of bilge pumps fitted to the main engines none Diameter of ditto 4" Stroke 150 tons/hr.

be overhauled, while the other is, at work No. of auxiliary pumps connected to the main bilge lines 4 How driven Motor

pumps (1) 50 tons/hr. (2) 50 tons/hr. (3) 60 tons/hr. (4) 50 tons/hr. No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps In engine room 203" Emerg. Bilge

holds, etc. 5/5 @ 3": 6 @ 2 1/2" - Bilge No. of ballast pumps One How driven Motor Sizes of pumps 150 tons/hr.

allast pump fitted with a direct suction from the engine room bilges Yes State size 4 1/2" Is a separate auxiliary pump suction fitted in Engine Room Yes

Room and size 203" Emerg. Bilge Are all the bilge suction pipes fitted with roses Yes Are the mud-boxes in Engine Room always accessible Yes

stluices on Engine Room bulkheads always accessible None Are all connections with the sea direct on the skin of the ship Yes

y valves or cocks both Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates Yes

discharge pipes 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

pipes, cocks, valves and pumps in connection with the machinery accessible at all times Yes Are the bilge suction pipes, cocks and valves arranged so as to prevent any

ication between the sea and the bilges. Yes Is the screw shaft tunnel watertight Yes Is it fitted with a watertight door Yes

from Bridge. If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Yes

main air compressors 2 No. of stages 3 Diameters 750, 675+150 mm. Stroke 420 mm. Driven by Main Engines

auxiliary air compressors 3 No. of stages 3 Diameters 400, 350+82 mm. Stroke 290 mm. Driven by Auxiliary Engines

small auxiliary air compressors None No. of stages 2 Diameters 120+35 mm. Stroke 126 mm. Driven by Paraffin Motor

scavenging air pumps None Diameter Stroke Driven by

er of auxiliary Diesel Engine crank shafts as per Rule 179 mm. as fitted 185 mm. Are the air compressors and their coolers made so as to be easy of access Yes

RECEIVERS: No of high pressure air receivers 8 Internal diameter 23 1/2" - 295 mm. Cubic capacity of each 550 - 230 litres 3 1/2" - 88 litres.

Mild steel Seamless, lap welded or riveted longitudinal joint seamless Range of tensile strength 28-32 tons.

s. 60 ins. working pressure by Rules 900 lb./in.² No. of starting air receivers 2 Internal diameter 570+26+0 1/16

ubic capacity 1400 ft.³ Material mild steel Seamless, lap welded or riveted longitudinal joint Riveted

f tensile strength 28-32 tons thickness 1 1/32 Working pressure by rules 375 lb./in.² Is each receiver, which can be isolated, with a safety valve as per Rule Yes

or surfaces Best air bottles - Hoop ends - No rivets - Man holes. Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their surfaces Yes

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	25, 28+29-6-26	15 lbs./in ²	50 lbs./in ²	L.D. & H.Y.B.	
JACKETS (combined)	13+14-7-26				
PISTON WATER PASSAGES	3, 7, 8+20-9-26	15 lbs./in ²	50 lbs./in ²	H.Y.B. & H.M.C.	
MAIN COMPRESSORS—1st STAGE	L.P. 20-8-26	60 lbs./in ²	500 lbs./in ²	H.Y.B.	
2nd	I.P. 16-9-26	210 lbs./in ²	500 lbs./in ²	J.D.B.	
3rd	H.P. 20-9-26 + 6-10-26	1000 lbs./in ²	2000 lbs./in ²	H.M.C. & J.D.B.	
AIR RECEIVERS—STARTING	17-9-26	356 lbs./in ²	585 lbs./in ²	R.L.A.	Bel. Rpt. 9609.
INJECTION	19-7-26	1000 lbs./in ²	2000 lbs./in ²	H.Y.B.	N ^o s. AV. 852, 3, 4, 5, 6, 7, 8
AIR PIPES	16+8-10-26	356 lbs./in ²	712 lbs./in ²	J.D.B.	
FUEL PIPES	4-12-26	25 lbs./in ² (svi. act.)	50 lbs./in ²	✓	
FUEL PUMPS	30-11-26	✓	✓	✓	
SILENCER	✓	✓	✓	✓	
WATER JACKET	✓	✓	✓	✓	
SEPARATE FUEL TANKS	12-7-26	✓	15 lbs./in ²	H.M.C.	

PLANS. Are approved plans forwarded herewith for shafting (If not, state date of approval) *yes*

Receivers *Belfast Rpt. 9609.* Separate Tanks *yes.*

SPARE GEAR *As per attached list.*

The foregoing is a correct description,
For HARLAND & WOLFF, LTD.

J. C. Green

Manufacturer.

MANAGER FINNISTON WORKS

Dates of Survey while building: During progress of work in shops— 1926 Feb. 15, Mar. 5-16, 14, 30, Apr. 6, 13, 14, 15, 16, 23, 26, 28, May 3, 5, 10, 12, 14, 17, 20, 21, 24, 26, 27, 28, June 1, 2, 3, 14, 15, 17, 25, 28, 29, 30, July 1, 2, 9, 12, 13, 14, 23, 29, 30, Aug 2, 3, 5, 6, 7, 17, 10, 16, 19, 20, Sep 1, 3, 6, 7, 8, 9, 13, 14, 16, 17, 20, 23, 30, Oct 15, 20, 26, 27, Nov 9, 11, 15, 22, 25, 24, 26, 30, Dec 4, 7, 13, 14, 15, 16, 20, 22, 24

Total No. of visits *96*

Dates of Examination of principal parts—Cylinders 25, 28+29-6-26 Covers 13+14-7-26 Pistons 3, 7, 8+20-9-26 Rods 9-9-26 Connecting rods 9-9-26 Crank shaft 14-6-26 Thrust shaft 9-8-26 Tunnel shafts 9-8-26 Screw shaft 9-8-26 Propeller 9-8-26 Stern tube 9-8-26 Engine seatings 13-9 Engines holding down bolts 24-11-26, 26-11-26 Completion of pumping arrangements 16-12-26 Engines tried under working conditions 22-12-26 Completion of fitting sea connections 19-8-26 Stern tube 19-8-26 Screw shaft and propeller 19-8-26

Material of crank shaft *steel* Identification Mark on Do. *5, 440YD's, 1261 T.H.* Material of thrust shaft *steel* Identification Mark on Do. *H.Y.B.*

Material of tunnel shafts *steel* Identification Marks on Do. *H.Y.B.* Material of screw shafts *steel* Identification Marks on Do. *H.Y.B.*

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 *Spare Tail Shaft 440YD's 3729*

General Remarks (State quality of workmanship, opinions as to class, &c.)

Marks on shafting: P. Thrust 440YD's 1261 T.H. Tunnel No 1 440YD's 1256 T.H. No 2 440YD's 1275 T.H. No 3 440YD's 1262 T.H. No 4 440YD's 1265 T.H. Tail shaft 440YD's 5671 J. 1-6-26 H.M.C. S. 440YD's 1261 T.H. No 1 440YD's 1256 T.H. No 2 440YD's 1275 T.H. No 3 440YD's 1266 T.H. Tail shaft 440YD's 5672 J. 1-6-26 H.M.C.

This machinery has been built under special survey in accordance with Rules & the approved plans. The materials & workmanship are good. The main engines & their auxiliaries have been properly fitted on board and tried under full power working conditions with satisfactory results. This vessel's machinery is eligible in my opinion, to be classed in the Register Book with notation L.M.C. - 12, 26 : C.L.

The amount of Entry Fee ... £ 6 : - : When applied for.

Special ... £ 116 : 10/- : 1912-26

Donkey Boiler Fee ... £ - : - : When received.

Travelling Expenses (if any) £ - : - : 20/11/27

J. D. Boyle
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 11 JAN 1927**

Assigned + LMC 12, 26

CERTIFICATE WRITTEN 12.1.27



Glasgow

a.l.e. 6/1/27

Certificate (if required) to be sent to

5b. of writing o. in S. Book. on t at ines mad ers made ers manufacture CAP al Heati and De ted by hy of Fin a of eac whether outbur II plate the she of rive bina