

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 44226

10 DEC 1924

Received at London Office

Date of writing Report 8th Dec 1924 When handed in at Local Office 8.12.24 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 22nd Apr 1924 Last Survey 6th Dec 1924
 Reg. Book. Single on the Twin Screw vessels COMLIEBANK Tons Gross 5149
Triple Master Glasgow Built at Glasgow By whom built Harland & Wolff Ltd Yard No. 6634 When built 1924
 Engines made at Glasgow By whom made Harland & Wolff Ltd Engine No. 663 When made 1924
 Donkey Boilers made at Belfast By whom made Harland & Wolff Ltd Boiler No. 845 When made 1924
 Brake Horse Power 2300 Owners Wm Andrew Wm & Co. (Bank Ltd) Port belonging to Glasgow
 Nom. Horse Power as per Rule 716.717 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

OIL ENGINES, &c.—Type of Engines DIESEL 2 or 4 stroke cycle 4 Single or double acting SINGLE
 Maximum pressure in cylinders 500 LBS/SQ IN No. of cylinders 12 No. of cranks 12 Diameter of cylinders 630 mm
 Length of stroke 960 mm Revolutions per minute 125 Means of ignition COMPRESSION Kind of fuel used ABOVE 150°F
 Is there a bearing between each crank YES Span of bearings (Page 92, Section 2, par. 7 of Rules) 872 mm
 Distance between centres of main bearings 1300 mm Is a flywheel fitted YES Diameter of crank shaft journals as per Rule 376 mm
 Diameter of crank pins 384 mm Breadth of crank webs as per Rule 500 mm Thickness of ditto as per Rule 238 mm
 Diameter of flywheel shaft as per Rule 376 mm Diameter of tunnel shaft as per Rule 9 3/4" Diameter of thrust shaft as per Rule 10 1/4"
 Diameter of screw shaft as per Rule 10 3/4" Is the screw shaft fitted with a continuous liner the whole length of the stern tube YES
 Is the after 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
 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 YES
 If two 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
 Type of outer gland fitted to stern tube WOOD LINED NO O.G. Length of stern bush 4'-2" Diameter of propeller 11'-9"
 Pitch of propeller 10'-6" MEAN 9'-9" TO 11'-3" No. of blades 3 EACH state whether moveable YES Total surface 84 square feet
 Method of reversing COMPRESSED AIR Is a governor or other arrangement fitted to prevent racing of the engine when decelerated YES Thickness of cylinder liners 20/35 mm
 Are the cylinders fitted with safety valves YES Means of lubrication FORCED & SIGHT FEED 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 YES
 No. of cooling water pumps 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES
 No. of bilge pumps fitted to the main engines NONE Diameter of ditto Stroke
 Can one be overhauled while the other is at work YES No. of auxiliary pumps connected to the main bilge lines 3 How driven ELECTRIC MOTOR
 Sizes of pumps CIRCULATING 4 1/2" CENTRIFUGAL BALLAST 9" x 9" x 11" STROKE BILGE 6" x 6" x 6" No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 30 3/2" 10 2 1/2" TUNNEL
 and in holds, etc. 20 2 1/2" 30 3" 40 3 1/2" HOLDS. TO 2 1/2" COFFER DAMS of ballast pumps 1 How driven ELECTRIC MOTOR Sizes of pump 9" x 9" x 11" STROKE
 Is the ballast pump fitted with a direct suction from the engine room bilges YES State size 5" DIA. Is a separate auxiliary pump suction fitted in Engine Room and size CIRC. PUMP 5" ON BILGE MAIN Are all the bilge suction pipes fitted with roses PIPES TO RULES Are the roses in Engine Room always accessible YES
 Are the sluices on Engine Room bulkheads always accessible YES Are all connections with the sea direct on the skin of the ship YES
 Are they valves or cocks BOTH Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates YES
 Are the discharge pipes above or below the deep water line ABOVE & BELOW Are they each fitted with a discharge valve always accessible on the plating of the vessel YES
 Are all 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 communication between the sea and the bilges YES
 Is the screw shaft tunnel watertight YES Is it fitted with a watertight door YES
 worked from SHELTER DECK If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork YES
 No. of main air compressors 2 (65 kg/cm²) No. of stages 3 Diameters 600 x 540 x 148 mm Stroke 350 mm Driven by MAIN ENGINES
 No. of auxiliary air compressors 1 (25 kg/cm²) No. of stages 2 Diameters 400 x 350 mm Stroke 260 mm Driven by ELECTRIC MOTOR
 No. of small auxiliary air compressors 1 (65 kg/cm²) No. of stages 2 Diameters 106 x 34 mm Stroke 80 mm Driven by STEAM
 No. of scavenging air pumps 1 Diameter Stroke Driven by YES
 Diameter of auxiliary Diesel Engine crank shafts as per Rule 167 mm Are the air compressors and their coolers made so as to be easy of access YES
as fitted 170 mm

AIR RECEIVERS:—No. of high pressure air receivers 7 Internal diameter 295 mm Cubic capacity of each 5 1/2 @ 150 LITRES ENH 2 @ 88 "
 material SOLID DRAWN STEEL Seamless, lap welded or riveted longitudinal joint SEAMLESS Range of tensile strength 28/32 TONS
 thickness 58" MIN working pressure by Rules 1375 LBS/SQ IN No. of starting air receivers 2 Internal diameter 6'-0 3/8"
 Total cubic capacity 1076 CU. FT. Material STEEL Seamless, lap welded or riveted longitudinal joint T. R. D. B. S.
 Range of tensile strength ENDS 28/30 TONS SHELL 28/32 " thickness ENDS 1 1/2" 1 1/32" Working pressure by rules 360 LBS/SQ IN Is each receiver, which can be isolated, fitted with a safety valve as per Rule ON COMMON PIPE Can the internal surfaces of the receivers be examined YES
 inner surfaces LOOSE END & MANHOLE DOOR. Is there a drain arrangement fitted at the lowest part of each receiver YES

IS A DONKEY BOILER FITTED? YES

If so, is a report now forwarded? YES BELFAST REPORT NO 918

HYDRAULIC TESTS:-

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS					
COVERS	27-5-24 to 6-6-24	15 LBS/SQ	50 LBS/SQ	N.M.B.	
JACKETS	28-5-24 to 13-6-24	15 LBS/SQ	50 LBS/SQ	N.M.B.	
PISTON WATER PASSAGES	5-8-24 to 7-8-24	15 LBS/SQ	50 LBS/SQ	N.M.B.	
MAIN COMPRESSORS—1st Stage	L.P. 15-5-24 to 6-6-24	71 LBS/SQ	150 LBS/SQ	N.M.B.	
2nd	M.P. 30-4-24 to 5-5-24	220 LBS/SQ	500 LBS/SQ	N.M.B.	
3rd	H.P. 23-5-24 to 6-6-24	1000 LBS/SQ	2000 LBS/SQ	N.M.B.	
AIR RECEIVERS—STARTING	13-8-24	356 LBS/SQ	586 LBS/SQ	H.P.S.	Belfast Report No 9174
INJECTION	8-7-24 to 28-8-24	1000 LBS/SQ	2000 LBS/SQ	N.M.B.	A.V. No 606-7-8-9-10-11-12
AIR PIPES ETC. STARTING	11-4-24 to 17-11-24	356 LBS/SQ	712 LBS/SQ	N.M.B.	
FUEL PIPES FILLING & SUCTIONS	18-11-24	✓	30 LBS/SQ	✓	
FUEL PUMPS	✓	✓	✓	✓	
SILENCER	✓	✓	✓	✓	
WATER JACKET	✓	✓	✓	✓	
SEPARATE FUEL TANKS	11-9-24	✓	10 LBS/SQ	A.D.M.	

PLANS. Are approved plans forwarded herewith for shafting Sent with No 643 Receivers No

SPARE GEAR

Supplied as per attached list. ✓

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

S. C. Green,

MANAGER FINESTON WORKS

Manufacturer.

Dates of Survey while building
During progress of work in shops - 1924 Apr 22-30 May 1-5-7-8-9-12-13-15-19-20-21-23-24-28-30 Jun 2-3-4-5-6-9-10-12-13-16-18-23-25-28 July 3-4-8-10-16-29 Aug
During erection on board vessel - 8-19-20-26-28-29 Sep 3-5-9-11-15 Oct 2-20-21-23 Nov 6-17-18-19-20-27 Dec 6
Total No. of visits 60

Dates of Examination of principal parts—Cylinder 28/5/24 to 13/6/24 Covers 27/5/24 to 4/6/24 Pistons 5/6/24 to 7/6/24 Rods 23/6/24 Connecting rods 21/8/24

Crank shaft 5-20/6/24 Thrust shaft 26/8/24 Tunnel shafts 26/6/24 Screw shaft 2/6/24 to 8/6/24 Propeller 20/8/24 Stern tube 25/6/24 Engine seatings 29/7/24

Engines holding down bolts 6/11/24 Completion of pumping arrangements 27/11/24 Engines tried under working conditions 6/12/24

Completion of fitting sea connections 29/7/24 Stern tube 20/8/24 Screw shaft and propeller 29/8/24

Material of crank shaft STEEL ✓ Identification Mark on Do. SEE UNDER Material of thrust shaft STEEL Identification Mark on Do. SEE UNDER

Material of tunnel shafts STEEL ✓ Identification Marks on Do. SEE UNDER Material of screw shafts STEEL ✓ Identification Marks on Do. SEE UNDER

Is the flash point of the oil to be used over 150° F. YES ✓

Is this machinery duplicate of a previous case YES ✓ If so, state name of vessel "CEDARBANK" No 643 G.

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

TUNNEL SHAFTS:-

PORT No 1 186 LLOYDS 102 T.H. No 2 3957 LLOYDS 702 J.P. No 3 14 LLOYDS 127 T.H. No 4 3897 LLOYDS 7196 T.H. No 5 90 LLOYDS 1040 J.P. No 6 4 LLOYDS 2113 J.P.

STAR No 1 186 LLOYDS 102 J.P. No 2 3998 LLOYDS 702 J.P. No 3 15 LLOYDS 101 T.H. No 4 89 LLOYDS 102 T.H. No 5 148 LLOYDS 101 J.P. No 6 3804 LLOYDS 2405 J.P.

This machinery has been constructed under special survey in accordance with the rules and approved plans. The materials and workmanship are sound and good, it has been fitted on board the vessel in an efficient manner, tried under full power working conditions and everything found satisfactory and in my opinion eligible to be classed with record of + L.M.C. 12-24.

The amount of SPECIAL Fee ... £ 110 : 16/- When applied for, 9-12-24

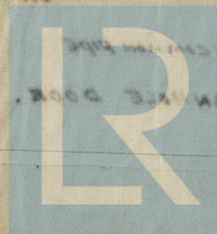
Special ENTRY " ... £ 6 : 0/- When received, 25

Donkey Boiler Fee ... £ : : Travelling Expenses (if any) £ : :

Committee's Minute GLASGOW 9-6-24

Assigned + L M C 12,24

A. M. Cruick
Engineer Surveyor to Lloyd's Register of Shipping.



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