

## REPORT ON OIL ENGINE MACHINERY.

No. 43781

WED. JUL 9 1924

Received at London Office

Date of writing Report 27<sup>th</sup> June 1924 When handed in at Local Office 30.6.24 Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 26<sup>th</sup> Oct 1923 Last Survey 27<sup>th</sup> June 1924  
 Reg. Book. Single on the Twin Screw vessels "GLENBANK" Number of Visits 51  
 Master Glasgow Built at Glasgow By whom built Harland & Wolff Ltd. Yard No. 6559 When built 1924  
 Engines made at Glasgow By whom made Harland & Wolff Ltd. Engine No. 655 When made 1924  
 Donkey Boilers made at Belfast By whom made Harland & Wolff Ltd. Boiler No. 835 When made 1924  
 Brake Horse Power 2300 Owners Messrs Andrew Weir & Co. (Bank Limited) Port belonging to Glasgow  
 Nom. Horse Power as per Rule 567 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 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 235 mm  
 Diameter of flywheel shaft as per Rule 376 mm Diameter of tunnel shaft as per Rule 9 1/4" Diameter of thrust shaft as per Rule 10 1/4"  
 Diameter of screw shaft as per Rule 10 1/4" 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 50" Diameter of propeller 11'-9"  
 Pitch of propeller 10'-6" MEAN 9'-9" TOLL 3" No. of blades 3 EACH state whether moveable YES Total surface 84 square feet  
 Method of reversing AIR Is a governor or other arrangement fitted to prevent racing of the engine YES Thickness of cylinder liners TOP 50 mm  
 Are the cylinders fitted with safety valves YES Means of lubrication FORCED & SIGHT FEED Are the exhaust pipes and silencers water cooled YES lagged with Asbestos  
 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 3 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 MOTOR  
 Sizes of pumps CIRCULATING 12 CENT. BALLAST 9" x 9" x 11" STRIKE No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 30 3/2" & 1-2 1/2" TUNNEL  
 and in holds, etc. 40 2 1/2" COFFER DAMS 20 2 1/2" 30 3" & 40 3 1/2" HALVES No. of ballast pumps 1 How driven ELECTRIC Sizes of pump 9" x 9" x 11" STRIKE  
 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 YES  
 Engine Room and size CIRCULATING 5" ON BILGE MAIN all the bilge suction pipes fitted with roses YES 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 No. of stages 3 (65 kg/cm²) Diameters 600 x 540 x 148 mm Stroke 350 mm Driven by MAIN ENGINE  
 No. of auxiliary air compressors 1 No. of stages 2 (25 kg/cm²) Diameters 400 x 350 mm Stroke 260 mm Driven by ELECTRIC MOTOR  
 No. of small auxiliary air compressors 1 No. of stages 2 (65 kg/cm²) Diameters 106 x 84 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 2" 88" 5 1/4" 150 LITRES EACH  
 material SOLID DRAWN STEEL Seamless, lap welded or riveted longitudinal joint SEAMLESS Range of tensile strength 28/32 TONS  
 thickness .58" working pressure by Rules 1375 LBS/SQ 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 27/32 TONS thickness ENDS 1 1/32" & 1 1/32" Working pressure by rules 357.5 LBS/SQ Is each receiver, which can be isolated, fitted with a safety valve as per Rule 1 ON COMMON PIPE Can the internal surfaces of the receivers be examined YES  
 inner surfaces LOOSE ENDS & MANHOLE DOORS 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

HYDRAULIC TESTS:-

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	✓	✓			
COVERS	3-3-24 to 11-3-24	15 LBS/S	50 LBS/S	HMB	
JACKETS	26-3-24 to 9-4-24	"	"	HMB	
PISTON WATER PASSAGES	26-2-24 to 4-3-24	"	"	HMB	
MAIN COMPRESSORS—1st STAGE	4-3-24 & 6-3-24	71 LBS/S	150 LBS/S	HMB	
2nd	29-2-24 & 4-3-24	220 LBS/S	500 LBS/S	HMB	
3rd	30-1-24 & 1-2-24	1000 LBS/S	2000 LBS/S	HMB	
AIR RECEIVERS—STARTING	8-3-24	366 LBS/S	585 LBS/S	W.B.	Belfast
INJECTION	5-3-24 & 15-4-24	1000 LBS/S	2000 LBS/S	HMB P.A.C.	AV. N° 563, 4, 5, 6, 7, 8 & 9.
AIR PIPES ETC. STARTING	13-3-24 to 10/6/24	356 LBS/S	712 LBS/S	HMB	
FUEL PIPES FILLING & SUCTIONS	2-6-24 & 11-6-24	✓	30 LBS/S		
FUEL PUMPS					
SILENCER					
WATER JACKET					
SEPARATE FUEL TANKS	8-4-24	✓	10 LBS/S	HMB	

PLANS. Are approved plans forwarded herewith for shafting Sent with N° 643 Receivers Returned at Belfast Separate Tanks Returned at Glasgow  
(If not, state date of approval) Approved 18/5/23

SPARE GEAR

Supplied as per attached list.

The foregoing is a correct description,

For HARLAND & WOLFF, LTD.

J. C. Green

Manufacturer.

Dates of Survey while building	During progress of work in shops--	1923 Oct 26 Nov 2, 16, 19, 24, 25, 29 Dec 5, 6, 1924 Jan 24, 30 Feb 1, 4, 8, 12, 24, 26, 27, 29 Mar 3, 4
	During erection on board vessel--	5-6, 7, 10, 11, 12, 13, 14, 18, 20, 28, 31 Apr 1, 3, 8, 9, 15, 22, 23, 28, 30, May 1, 2, 22, 27 Jun 2, 10, 11, 19, 27
	Total No. of visits	51

Dates of Examination of principal parts—Cylinders 26/3 to 4/4/24 Covers 3 to 11/3/24 Pistons 25/2 to 4/3/24 Rods 22/4/24 Connecting rods 22/4/24  
Crank shaft 29/2/24 Thrust shaft 25/3/24 Tunnel shafts 21/2/24 Screw shaft 18/3/24 Propeller 3/4/24 Stern tube 1/2/24 Engine seatings 3/4/24  
Engines holding down bolts 22/5/24 Completion of pumping arrangements 19/6/24 Engines tried under working conditions 27/6/24

Completion of fitting sea connections 11/4/24 Stern tube 14/5/24 Screw shaft and propeller 20/5/24  
Material of crank shaft STEEL Identification Mark on Do. N° 655 Material of thrust shaft STEEL Identification Mark on Do. N° 656  
Material of tunnel shafts STEEL Identification Marks on Do. SEE UNDER Material of screw shafts STEEL Identification Marks on Do. SPARE 3578  
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 N° 1 NYERBANK N° 643C

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

TUNNEL SHAFTS:-

PORT	3684	3689	3583	3596	3650	3683
	LLOYDS	LLOYDS	LLOYDS	LLOYDS	LLOYDS	LLOYDS
	2178	2181	2181	2186	2206	2206
N° 1	PMG	PMG	PMG	PMG	PMG	PMG
STAR	3710	3588	3596	3697	3634	3681
	LLOYDS	LLOYDS	LLOYDS	LLOYDS	LLOYDS	LLOYDS
	2178	2181	2181	2186	2192	2206
	PMG	PMG	PMG	PMG	PMG	PMG

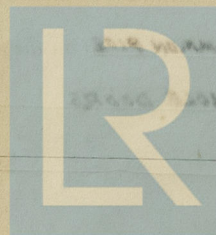
This machinery has been constructed under special survey in accordance with the rules and approved plans. The materials and workmanship are sound and good, it has been fitted on board the vessel in an efficient manner, tried under full power working conditions and everything found satisfactory and in my opinion eligible to be classed with record of L.M.C 6-24

The amount of Entry Fee ... £ 6 : 0 ✓  
Special ... £ 103 : 7 ✓  
Donkey Boiler Fee ... £ ✓ : :  
Travelling Expenses (if any) £ ✓ : :  
When applied for, 8.7.1924  
When received, 3.9.24

Committee's Minute GLASGOW -8 JUL 1924

Assigned + LMC 6,24

H. M. Currier  
Engineer Surveyor to Lloyd's Register of Shipping.



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