

REPORT ON OIL ENGINE MACHINERY

No. 43781

WED. JUL 9 1924

Received at London Office

Date of writing Report 27th June 1924 When handed in at Local Office 30.6.24 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 26th Oct 1923 Last Survey 27th June 1924
Reg. Book. Number of Visits 51

on the Single } Screw vessel "GLENBANK" Tons { Gross 5151
Twin } Net 3161

Master _____ 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 M/M

Length of stroke 960 M/M 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 M/M

Distance between centres of main bearings 1300 M/M Is a flywheel fitted YES Diameter of crank shaft journals as per Rule 376 M/M
as fitted 384 M/M

Diameter of crank pins 384 M/M Breadth of crank webs as per Rule 500 M/M Thickness of ditto as per Rule 235 M/M
as fitted 650 M/M as fitted 250 M/M

Diameter of flywheel shaft as per Rule 376 M/M Diameter of tunnel shaft as per Rule 9 1/4" Diameter of thrust shaft as per Rule 10 1/4"
as fitted 384 M/M as fitted 10" as fitted 11 1/8"

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
as fitted 11"

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
TOP 50 M/M

Method of reversing AIR Is a governor or other arrangement fitted to prevent racing of the engine when disengaged YES Thickness of cylinder liners 807 35 M/M
807 35 M/M

Are the cylinders fitted with safety valves YES Means of lubrication FORCED & SIGHT FEED Are the exhaust pipes and silencers water cooled & 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 _____ 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
10 1/2" x 20 1/2"

Sizes of pumps CIRCULATING 12 CENT. BALLAST 9x9x11" STROKE 6x6x6" No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 30 3/2" x 1-2 1/2" TUNNEL
and in holds, etc. 40 2 1/2" COFFERDAMS 20 2 1/2" 30 3" 40 3 1/2" HALDS No. of ballast pumps 1 How driven ELECTRIC Sizes of pumps 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 CIRCULATING 5" ON BILGE MAIN all the bilge suction pipes fitted with roses TAIL PIPES TO ROSES 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 _____

No. of main air compressors 2 No. of stages 3 (65 KG/CM²) Diameters 600 x 540 x 148 Stroke 350 M/M Driven by MAIN ENGINE

No. of auxiliary air compressors 1 No. of stages 2 (25 KG/CM²) Diameters 400 x 350 M/M Stroke 260 M/M Driven by ELECTRIC MOTOR

No. of small auxiliary air compressors 1 No. of stages 2 (65 KG/CM²) Diameters 106 x 84 M/M Stroke 80 M/M Driven by STEAM

No. of scavenging air pumps _____ Diameter _____ Stroke _____ Driven by _____

Diameter of auxiliary Diesel Engine crank shafts as per Rule 167 M/M Are the air compressors and their coolers made so as to be easy of access YES
as fitted 170 M/M

AIR RECEIVERS:—No. of high pressure air receivers 7 Internal diameter 295 M/M 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" SHELL 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 What means are provided for cleaning their
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	M.P. 29-2-24 & 4-3-24	220 LBS/S	500 LBS/S	HMB	
3rd	H.P. 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	1587 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 Retained at Belfast* Separate Tanks *Retained 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, 21, 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, 10/4/24	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 shafts	25/3/24	Propeller	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° 2655	Material of thrust shaft	STEEL	Identification Mark on Do.	N° 2151
Material of tunnel shafts	STEEL	Identification Marks on Do.	SEE UNDER	Material of screw shafts	STEEL	Identification Marks on Do.	N° 3680, N° 3681, N° 3682, N° 3683, N° 3684, N° 3685, N° 3686, N° 3687, N° 3688, N° 3689, N° 3690, N° 3691, N° 3692, N° 3693, N° 3694, N° 3695, N° 3696, N° 3697, N° 3698, N° 3699, N° 3700, N° 3701, N° 3702, N° 3703, N° 3704, N° 3705, N° 3706, N° 3707, N° 3708, N° 3709, N° 3710, N° 3711, N° 3712, N° 3713, N° 3714, N° 3715, N° 3716, N° 3717, N° 3718, N° 3719, N° 3720, N° 3721, N° 3722, N° 3723, N° 3724, N° 3725, N° 3726, N° 3727, N° 3728, N° 3729, N° 3730, N° 3731, N° 3732, N° 3733, N° 3734, N° 3735, N° 3736, N° 3737, N° 3738, N° 3739, N° 3740, N° 3741, N° 3742, N° 3743, N° 3744, N° 3745, N° 3746, N° 3747, N° 3748, N° 3749, N° 3750, N° 3751, N° 3752, N° 3753, N° 3754, N° 3755, N° 3756, N° 3757, N° 3758, N° 3759, N° 3760, N° 3761, N° 3762, N° 3763, N° 3764, N° 3765, N° 3766, N° 3767, N° 3768, N° 3769, N° 3770, N° 3771, N° 3772, N° 3773, N° 3774, N° 3775, N° 3776, N° 3777, N° 3778, N° 3779, N° 3780, N° 3781, N° 3782, N° 3783, N° 3784, N° 3785, N° 3786, N° 3787, N° 3788, N° 3789, N° 3790, N° 3791, N° 3792, N° 3793, N° 3794, N° 3795, N° 3796, N° 3797, N° 3798, N° 3799, N° 3800, N° 3801, N° 3802, N° 3803, N° 3804, N° 3805, N° 3806, N° 3807, N° 3808, N° 3809, N° 3810, N° 3811, N° 3812, N° 3813, N° 3814, N° 3815, N° 3816, N° 3817, N° 3818, N° 3819, N° 3820, N° 3821, N° 3822, N° 3823, N° 3824, N° 3825, N° 3826, N° 3827, N° 3828, N° 3829, N° 3830, N° 3831, N° 3832, N° 3833, N° 3834, N° 3835, N° 3836, N° 3837, N° 3838, N° 3839, N° 3840, N° 3841, N° 3842, N° 3843, N° 3844, N° 3845, N° 3846, N° 3847, N° 3848, N° 3849, N° 3850, N° 3851, N° 3852, N° 3853, N° 3854, N° 3855, N° 3856, N° 3857, N° 3858, N° 3859, N° 3860, N° 3861, N° 3862, N° 3863, N° 3864, N° 3865, N° 3866, N° 3867, N° 3868, N° 3869, N° 3870, N° 3871, N° 3872, N° 3873, N° 3874, N° 3875, N° 3876, N° 3877, N° 3878, N° 3879, N° 3880, N° 3881, N° 3882, N° 3883, N° 3884, N° 3885, N° 3886, N° 3887, N° 3888, N° 3889, N° 3890, N° 3891, N° 3892, N° 3893, N° 3894, N° 3895, N° 3896, N° 3897, N° 3898, N° 3899, N° 3900, N° 3901, N° 3902, N° 3903, N° 3904, N° 3905, N° 3906, N° 3907, N° 3908, N° 3909, N° 3910, N° 3911, N° 3912, N° 3913, N° 3914, N° 3915, N° 3916, N° 3917, N° 3918, N° 3919, N° 3920, N° 3921, N° 3922, N° 3923, N° 3924, N° 3925, N° 3926, N° 3927, N° 3928, N° 3929, N° 3930, N° 3931, N° 3932, N° 3933, N° 3934, N° 3935, N° 3936, N° 3937, N° 3938, N° 3939, N° 3940, N° 3941, N° 3942, N° 3943, N° 3944, N° 3945, N° 3946, N° 3947, N° 3948, N° 3949, N° 3950, N° 3951, N° 3952, N° 3953, N° 3954, N° 3955, N° 3956, N° 3957, N° 3958, N° 3959, N° 3960, N° 3961, N° 3962, N° 3963, N° 3964, N° 3965, N° 3966, N° 3967, N° 3968, N° 3969, N° 3970, N° 3971, N° 3972, N° 3973, N° 3974, N° 3975, N° 3976, N° 3977, N° 3978, N° 3979, N° 3980, N° 3981, N° 3982, N° 3983, N° 3984, N° 3985, N° 3986, N° 3987, N° 3988, N° 3989, N° 3990, N° 3991, N° 3992, N° 3993, N° 3994, N° 3995, N° 3996, N° 3997, N° 3998, N° 3999, N° 4000

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/S NYERBANK N° 643C*

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

TUNNEL SHAFTS:—	PORT	3684 LLOYDS 2178 P.M.C.	N° 2	3689 LLOYDS 2187 P.M.C.	N° 3	3583 LLOYDS 2181 P.M.C.	N° 4	3596 LLOYDS 2186 P.M.C.	N° 5	3650 LLOYDS 2206 P.M.C.	N° 6	3683 LLOYDS 2206 P.M.C.
	STAR	3710 LLOYDS 2186 P.M.C.		3588 LLOYDS 2182 P.M.C.		3598 LLOYDS 2183 P.M.C.		3697 LLOYDS 2178 P.M.C.		3634 LLOYDS 2192 P.M.C.		3681 LLOYDS 2206 P.M.C.

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	When applied for.	8.7.1924
Special	£ 103 : 7		
Donkey Boiler Fee	£ ✓ : :	When received.	3.9.24
Travelling Expenses (if any)	£ ✓ : :		

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

Committee's Minute **GLASGOW** - 8 JUL 1924

Assigned **+ L.M.C 6,24**

Duplicate written
4.9.24

