

REPORT ON OIL ENGINE MACHINERY.

No. 44177

Received at London Office

26 NOV 1924

Date of writing Report 14th Nov 1924 When handed in at Local Office 15.11.1924 Port of GlasgowNo. in Survey held at Glasgow
Reg. Book.Date, First Survey 22nd Apr 1924 Last Survey 13th Nov. 1924
Number of Visits 51.on the ^{Single} ~~Twin~~ ^{Triple} Screw vessels "ELMWORTH"Tons { Gross 4963
Net 3040

Master Built at Dumbarton By whom built Rm. Miller & Co. Hard No. 6360 When built 1924

Engines made at Glasgow By whom made Harland & Wolff Ltd. Engine No. 636 When made 1924

Donkey Boilers made at Arman By whom made Cochran & Co. Ltd. Boiler No. 16523 When made 1924

Brake Horse Power 1850

Owners R. S. Dalglisk & Co.

Port belonging to

Nom. Horse Power as per Rule 489 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

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 6 No. of cranks 6 Diameter of cylinders 740 mm

Length of stroke 1500 mm Revolutions per minute 90 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) 1004 mm

Distance between centres of main bearings 1450 mm Is a flywheel fitted YES Diameter of crank shaft journals as per Rule 470 mm as fitted 485 mm = 19.09"

Diameter of crank pins 485 mm METAL ROUND as per Rule 206 mm as fitted 210 mm Thickness of ditto as per Rule 294 mm as fitted 310 mm

Diameter of flywheel shaft as per Rule 470 mm as fitted 485 mm Diameter of tunnel shaft as per Rule 12 3/4" as fitted 13 1/2" Diameter of thrust shaft as per Rule 13 3/8" as fitted 14 3/8"

Diameter of screw shaft as per Rule 14" as fitted 14 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

Does 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

Are two liners 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 AFT END 5'-8" FOR 2'-3" Diameter of propeller 15'-3"

Pitch of propeller 13' No. of blades 4 state whether moveable SOLID Total surface 76 square feet

Method of reversing AIR Is a governor or other arrangement fitted to prevent racing of the engine when disengaged YES Thickness of cylinder liners TOP 60 mm BOT 40 mm

Are the cylinders fitted with safety valves YES Means of lubrication SIGHT & FORCED 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

Is there a thin 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 1 BALLAST 1 BILGE How driven ELECTRIC MOTOR

Sizes of pumps BILGE 8'x8" DUPLEX No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 30" COFFERDAM 20'3" 102 1/2"

Is there a suction in holds, etc. 12' 3" & TUNNEL WELL 10'3" No. of ballast pumps ONE How driven ELECTRIC MOTOR Sizes of pumps 9'x10" DUPLEX

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 BILGE PUMP DIRECT Are all the bilge suction pipes fitted with roses OR TAIL PIPES 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 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

Is the vessel worked from UPPER 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 1 (65 kg/cm²) No. of stages 3 Diameters 750 x 675 x 150 mm Stroke 460 mm Driven by MAIN ENGINE

No. of auxiliary air compressors 1 (65 kg/cm²) No. of stages 3 Diameters 360 x 315 x 72 mm Stroke 230 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 Diameter Stroke Driven by

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

AIR RECEIVERS:—No. of high pressure air receivers 6 Internal diameter 30 295 mm Cubic capacity of each 30 150 LITRES

Material STEEL Seamless, lap welded or riveted longitudinal joint SOLID DRAWN Range of tensile strength 28/32 TONS

Thickness MIN .56" working pressure by Rules 1325 LBS/SQ IN No. of starting air receivers TWO 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 SHELL 26/30 28/32 thickness ENDS 1 1/32 1 1/32 Working pressure by rules 360.7 LBS/SQ IN Is each receiver, which can be isolated,

fitted with a safety valve as per Rule 54 ON COMMON PIPE Can the internal surfaces of the receivers be examined YES What means are provided for cleaning their

inner surfaces REMOVEABLE ENDS & MANHOLES Is there a drain arrangement fitted at the lowest part of each receiver YES

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IS A DONKEY BOILER FITTED? YES

If so, is a report now forwarded? YES Glasgow No 43725

HYDRAULIC TESTS:-

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS					
COVERS	17-6-24 to 8-7-24	15 LBS/SQ	50 LBS/SQ	Nmb	
JACKETS	17-6-24 to 8-7-24	15 LBS/SQ	50 LBS/SQ	Nmb	
PISTON WATER PASSAGES	5-8-24 to 5-9-24	15 LBS/SQ	50 LBS/SQ	Nmb	
MAIN COMPRESSORS—1st STAGE	L.P. 18-6-24 to 28-5-24	71 LBS/SQ	150 LBS/SQ	Nmb	
2nd	M.P. 27-5-24	220 LBS/SQ	500 LBS/SQ	Nmb	
3rd	H.P. 27-5-24	1000 LBS/SQ	2000 LBS/SQ	Nmb	
AIR RECEIVERS—STARTING	28-5-24	356 LBS/SQ	585 LBS/SQ	W.B.	BELFAST REPORT No 9127
INJECTION	17-6-24 to 18-6-24	1000 LBS/SQ	2000 LBS/SQ	Nmb	AY. Nos 620, 21, 22, 23, 24
AIR PIPES	STARTING 20-6-24 to 31-10-24	356 LBS/SQ	712 LBS/SQ	Nmb	
FUEL PIPES	FILLING & SUCTION 23-10-24 to 27-10-24	✓	30 LBS/SQ		
FUEL PUMPS	✓				
SILENCER	✓				
WATER JACKET	✓				
SEPARATE FUEL TANKS	3-9-24	✓	10 LBS/SQ	Nmb	

PLANS. Are approved plans forwarded herewith for CRANK SHAFTING (If not, state date of approval)

Receivers Belfast Report No 9127. Separate Tanks Retained for No 610

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 - 1924 Apr 22, 25, 28, 30 May 5, 7, 8, 12, 13, 14, 20, 21, 22, 23, 26, 27, 28 Jun 2, 3, 4, 6, 17, 18, 20, 23, 24, 25, 27, 28 July 3, 4, 8, 31 Aug 7, 10
During erection on board vessel - 29 Sep 3, 5, 18, 19, 25 Oct 3, 8, 23, 27, 31 Nov 3, 4, 7, 13
Total No. of visits 51.

Dates of Examination of principal parts—Cylinders 17/6/24 to 8/7/24 Covers 17/6/24 to 8/7/24 Pistons 5/5/24 to 8/7/24 Rods 3/6/24 Connecting rods 26/5/24

Crank shaft 12/5/24 Thrust shaft 21/5/24 Tunnel shafts 1/6/24 to 31/7/24 Screw shaft 21/5/24 to 31/7/24 Propeller 6/7/24 to 24/6/24 Stern tube 25/6/24 Engine seatings 20/8/24

Engines holding down bolts 3/10/24 Completion of pumping arrangements 3/11/24 Engines tried under working conditions 13/11/24

Completion of fitting sea connections 20/8/24 Stern tube 20/8/24 Screw shaft and propeller 25/8/24

Material of crank shaft STEEL Identification Mark on Do. N° 636 HMC 12/5/24 Material of thrust shaft STEEL Identification Mark on Do. 262 LLOYDS 2384 P

Material of tunnel shafts STEEL Identification Marks on Do. SEE UNDER Material of screw shafts STEEL Identification Marks on Do. 242 LLOYDS 2384 P

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

Is this machinery duplicate of a previous case YES BUT WITH NEW TYPE OF CYLINDER COVER If so, state name of vessel M/S "GUTARAT" No 610.

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

TUNNEL SHAFTS :- N° 1. T364 8336 LLOYDS 176 T.H. N° 2. 8336 LLOYDS 147 T.H. N° 3. 8437 LLOYDS 199 T.H. N° 4. T367 LLOYDS 148 T.H. N° 5. 478 LLOYDS 138 T.H.

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 is in my opinion eligible to be classed with record of L.M.C 11-24.

The amount of Entry Fee ... £ 5 : 0 : When applied for.

Special ... £ 98 : 7 : 19/24

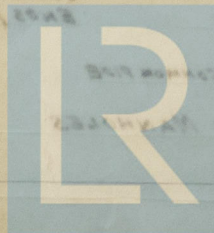
Donkey Boiler Fee ... £ ✓ : : When received.

Travelling Expenses (if any) £ ✓ : : 20/8/24

Committee's Minute

Assigned + LMC 11, 24

CERTIFICATE WRITTEN 22.12.24



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