

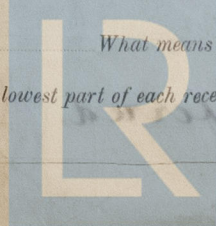
REPORT ON OIL ENGINE MACHINERY.

No. 43295

Received at London Office
 Date of writing Report 19. 10. 1924 Port of Glasgow WFO. 23 JAN. 1924
 No. in Survey held at Glasgow Date, First Survey 5. 10. 1920 Last Survey 16. 1. 1924
 Reg. Book. Bel. Reg. 26. 1923. To day 22. 1924 Total #0 Number of Visits 68
 on the Single } Screw vessels N° 594 M. S. Glenshiel. Tons { Gross 9415
 Twin } Net 5803
 Triple }
 Master Built at Belfast By whom built Harland & Wolff Yard No. 594 When built 1924
 Engines made at Glasgow By whom made Harland & Wolff & Co. Engine No. 594 When made 1924
 Donkey Boilers made at Annan By whom made Cochran & Co. Ltd. Boiler No. 9224 When made 1924
 Brake Horse Power 4500 Owners Glen Line Ltd. Port belonging to Belfast
 Nom. Horse Power as per Rule 1144 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes

II. ENGINES, &c.—Type of Engines Diesel 2 or 4 stroke cycle 4 Single or double acting SINGLE
 Maximum pressure in cylinders 500 LBS/IN² No. of cylinders 16 No. of cranks 16 Diameter of cylinders 740 mm 29 1/8"
 Length of stroke 1150 mm 45 1/4" Revolutions per minute 115 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) 994 mm
 Distance between centres of main bearings 1500 mm Is a flywheel fitted YES Diameter of crank shaft journals as per Rule 451 mm
 as fitted 465 mm
 Diameter of crank pins 465 mm Breadth of crank webs as per Rule 600 mm as fitted 710 mm Thickness of ditto as per Rule 252 mm as fitted 300 mm
 Diameter of flywheel shaft as per Rule 451 mm as fitted 465 mm Diameter of tunnel shaft as per Rule 12 1/8" as fitted 12 3/8" Diameter of thrust shaft as per Rule 12 3/4" as fitted 13 1/4"
 Diameter of screw shaft as per Rule 13" as fitted 13 1/2" 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
 Is 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
 Are two liners are fitted, is the shaft lapped or protected between the liners If without liners, is the shaft arranged to run in oil
 Type of outer gland fitted to stern tube Wood lined stern bush Length of stern bush 5'-0" Diameter of propeller 14'-0"
 Pitch of propeller 12'-9" No. of blades 3 state whether moveable yes Total surface 106 ft² 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 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
 No. of cooling water pumps one duplex Is the sea suction provided with an efficient strainer which can be cleared
 When the vessel yes No. of bilge pumps fitted to the main engine one duplex Diameter of ditto 8" Stroke 8"
 Can one be overhauled while the other is at work yes No. of auxiliary pumps connected to the main bilge lines one How driven motor (Ballast pump)
 Sizes of pumps 10" stroke x 10" stroke No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 3 @ 5", 2 @ 3 1/2", 1 @ 2 1/2"
 In holds, etc. 3 @ 3 1/2" in each hold & deep tanks No. of ballast pumps one duplex Electric Motor Sizes of pumps 10" x 10"
 Is the ballast pump fitted with a direct suction from the engine room bilges yes State size 5" Is a separate auxiliary pump suction fitted in
 Engine Room and size yes 2 @ 5" (P & S) Are 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 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 it fitted from top platform 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 4 No. of stages 3 Diameters 600-540-485 mm Stroke 350 mm Driven FROM MAIN SHAFT
 No. of auxiliary air compressors 1 No. of stages 2 Diameters 545-485 mm Stroke 280 mm Driven by ELECTRIC MOTOR
 No. of small auxiliary air compressors 1 No. of stages 2 Diameters 106-34 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 227 mm as fitted 235 mm Are the air compressors and their coolers made so as to be easy of access YES
 RECEIVERS:—No. of high pressure air receivers 7 Internal diameter 20" - 29 1/2" 88 LITRES
 4" 29 1/2" 150 " Cubic capacity of each 230 "
 Material STEEL Seamless, lap welded or riveted longitudinal joint SEAMLESS Range of tensile strength 28/32 TONS
 Working pressure by Rules 1180 LBS/IN² No. of starting air receivers 3 Internal diameter 6-0 3/8"
 Cubic capacity 2181 cu. ft. Material Steel Seamless, lap welded or riveted longitudinal joint T.R.D.B.S.
 Range of tensile strength 28/32 TONS thickness 1 3/32 Working pressure by rules 396 lbs Is each receiver, which can be isolated,
 with a safety valve as per Rule 10 ON COMMON PIPE Can the internal surfaces of the receivers be examined YES What means are provided for cleaning their
 internal surfaces DETACHABLE HEADS & MANHOLE DOORS Is there a drain arrangement fitted at the lowest part of each receiver YES

See also Separate Report.

Lloyd's Register
Foundation

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	21-6-23 TO 8-8-23	15 LBS/SQ	50 LBS/SQ	J.D.B. & H.M.B.	
JACKETS	20-8-23 TO 26-9-23	15 LBS/SQ	50 LBS/SQ	H.M.B.	
PISTON WATER PASSAGES	19-6-23 TO 16-8-23	15 LBS/SQ	50 LBS/SQ	J.D.B. & H.M.B.	
MAIN COMPRESSORS—1st STAGE	24-7-23 TO 11-12-23	71 LBS/SQ	150 LBS/SQ	H.M.B.	
2nd	24-7-23 TO 8-12-23	220 LBS/SQ	500 LBS/SQ	H.M.B.	
3rd	5-7-23 TO 24-8-23	1000 LBS/SQ	2000 LBS/SQ	H.M.B.	
AIR RECEIVERS—STARTING					
INJECTION	26-10-23 & 14-11-23	1000 LBS/SQ	2000 LBS/SQ	H.M.B.	A.Y. N° 504 TO 510 (7)
AIR PIPES	12-12-23 TO 17-1-24	356 LBS/SQ	712 LBS/SQ	H.M.B.	
FUEL PIPES	for setting tanks 28-11-23		15 lbs.		
FUEL PUMPS					
SILENCER					
WATER JACKET					
SEPARATE FUEL TANKS	14-12-23		10 lbs.		

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

Report N° 41757

M/S GLENDARRY

Receivers

yes

Separate Tanks

yes

SPARE GEAR

Supplied as per attached list Spare Gear checked & all in order.

(10 plans in all)

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

J. C. Green,

Manufacturer.

MANAGER FINNIESTON WORKS

Dates of Survey while building
During progress of work in shops-- 1920 Oct 5, Nov 3, 19, 1921 Jan 22, Feb 18, Mar 29, 1922 May 2, 9, Jun 5, 18, 21, Jul 4, 5, 6, 9, 13, 24, Aug 1, 3, 7, 8, 9, 10, 1923
During erection on board vessel-- 20, 22, 24, 27, Sep 6, 25, 26, Oct 5, 9, 11, 12, 15, 16, 18, 19, 22, 23, 24, 25, Nov 8, 9, 14, 19, 20, 21, 27, Dec 3, 4, 5, 8, 10, 11, 12, 17, 18, 21, 24, 1924 Jan 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1925
Total No. of visits 68. Rel. visits: 1923, July 26, Sep 6, 21, 27, Oct 18, 9, 22, 31, Nov 5, 6, 13, 30, Dec 4, 5, 11, 12, 14, 18, 21, 1924, Jan 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1925, Feb 1, 12, 13, 26, Mar 7, 19, Apr 1, 2, 5, 14, 28, May 1, 6, 15, 16, 19, 22. Total 40

Dates of Examination of principal parts—Cylinder 20/8/23 to 24/9/23 Covers 21/6/23 to 8/8/23 Pistons 19/6/23 to 16/8/23 Rods 24/7/23 Connecting rods 16/1/24

Crank shaft 17/8/23 Thrust shaft 9/4/23 Tunnel shafts 8-1-23 Screw shaft 8-1-23 Propeller 8-1-23 Stern tube 12-12-23 Engine seatings 21-12-23

Engines holding down bolts 28-11-23 Completion of pumping arrangements 28-11-23 Engines tried under working conditions 15-5-24

Completion of fitting sea connections 21-1-24 Stern tube 21-1-24 Screw shaft and propeller 21-1-24

Material of crank shaft STEEL Identification Mark on Do. H.M.C. 17/8/23 Material of thrust shaft STEEL Identification Mark on Do. 2893 S 43, 1108, 1967, P.M.C.

Material of tunnel shafts Steel Identification Marks on Do. 2044, 2035 Material of screw shafts Steel Identification Marks on Do. 6483, 6484, W.

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 M/s "Lochgoil" (main motor)

General Remarks (State quality of workmanship, opinions as to class, &c.) This machinery has been built under special survey in accordance with the rules and approved plans, the materials and workmanship are so far as seen sound and good. The engines are now being forwarded to Belfast to be fitted on board. This machinery has been installed in the vessel & securely fixed. The machinery has been tried under working conditions & found satisfactory & is in good & safe working condition & eligible in my opinion to be classed as a steam engine. L.M.C. 5-24 T.S. CL. 5-24. E.H. Refug. Mch. Dry Bl. 100 lbs. H.

The amount of Entry Fee ... £ 6 : 0 : 0 When applied for, 22/1/24

Special £ 102-18/- due Glasgow. Donkey Boiler Fee ... £ 128 : 12 : 0 When received, 8-12-24

£ 25-14/- due Belfast. Travelling Expenses (if any) £ - : - : -

Committee's Minute

Assigned Defered

FRI 6 JUN 1924

+ Lm 6524 200 L.

oil engines

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