

REPORT ON OIL ENGINE MACHINERY.

No. 82673

of writing Report 19 When handed in at Local Office - 8 SEP 1921 Port of LIVERPOOL Received at London Office
in Survey held at Birkenhead Date, First Survey Sept 20th 1920 Last Survey Aug 30th 1921
Book. 305 on the Single } Screw vessels "MALIA" (Starboard Engine) Number of Visits 70
Triple }
ster Built at Port Glasgow By whom built W. Hamilton & Co. Yard No. 377 When built 1921
Tons { Gross 3600
Net
ines made at Birkenhead By whom made Emmell & Co. Engine No. 2092 When made 1921
key Boilers made at By whom made
Horse Power 550 Owners T. J. Brocklebank Boiler No. When made
Horse Power as per Rule 124 Is Refrigerating Machinery fitted for cargo purposes Port belonging to Liverpool
Is Electric Light fitted

ENGINES, &c.—Type of Engines Emmell & Co. 2 or 4 stroke cycle 2. Single or double acting Single
um pressure in cylinders 550 lbs/p No. of cylinders Four No. of cranks Four Diameter of cylinders 14"
of stroke 20" Revolutions per minute 120 Means of ignition High Compression Kind of fuel used Heavy Oil
a bearing between each crank No. Span of bearings (Page 92, Section 2, par. 7 of Rules) 5'-8 1/4"
e between centres of main bearings 4'-8 1/4" Is a flywheel fitted Yes Diameter of crank shaft journals as per Rule Approved
r of crank pins 9 1/2" as fitted 9 1/2"
r of flywheel shaft as per Rule Mounted on Crank shaft Coupling Diameter of tunnel shaft as per Rule Approved
as fitted 11 1/2" Thickness of ditto as per Rule Approved
r of screw shaft as per Rule as fitted 6"
Diameter of thrust shaft as per Rule Approved
as fitted 9 1/2"
fter end of the liner made watertight in the propeller boss Is the screw shaft fitted with a continuous liner the whole length of the stern tube
ner 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
ners are fitted, is the shaft lapped or protected between the liners If without liners, is the shaft arranged to run in oil
outer gland fitted to stern tube Length of stern bush Diameter of propeller
propeller No. of blades state whether moveable Total surface square feet
of reversing Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes Thickness of cylinder liners 1 1/4"
cylinders fitted with safety valves Yes Means of lubrication Forced Are the exhaust pipes and silencers water cooled or lagged with
ucting material Some W.C. Some lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine
Exhaust led up Tunnel No. of cooling water pumps Is the sea suction provided with an efficient strainer which can be cleared
e vessel No. of bilge pumps fitted to the main engines None Diameter of ditto Stroke
e overhauled while the other is at work No. of auxiliary pumps connected to the main bilge lines How driven
umps No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room
lds, etc. No. of ballast pumps How driven Sizes of pumps
last pump fitted with a direct suction from the engine room bilges State size Is a separate auxiliary pump suction fitted in
oom and size Are all the bilge suction pipes fitted with roses Are the roses in Engine Room always accessible
uices on Engine Room bulkheads always accessible Are all connections with the sea direct on the skin of the ship
valves or cocks Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates
scharge pipes above or below the deep water line Are they each fitted with a discharge valve always accessible on the plating of the vessel
es, cocks, valves and pumps in connection with the machinery accessible at all times Are the bilge suction pipes, cocks and valves arranged so as to prevent any
tion between the sea and the bilges Is the screw shaft tunnel watertight Is it fitted with a watertight door
m If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork
n air compressors One No. of stages 3 Diameters 16 1/2", 14 1/2", 3 1/2" Stroke 14" Driven by Main Engine
liary air compressors No. of stages Diameters Stroke Driven by
lt auxiliary air compressors No. of stages Diameters Stroke Driven by
enging air pumps Four Rectangular 33 1/2" x 15 1/4" Stroke 20" Driven by Main Engine
auxiliary Diesel Engine crank shafts as per Rule as fitted Are the air compressors and their coolers made so as to be easy of access Yes

RECEIVERS:—No of high pressure air receivers 3 (2 ex Fullagar) Internal diameter 15" Cubic capacity of each 2.74 cu. ft.
Steel Seamless, lap welded or riveted longitudinal joint Seamless Range of tensile strength Admiralty Steel (Approved)
7 1/2" working pressure by Rules 2000 lbs/p No. of starting air receivers 12 Internal diameter 17 1/2"
apacity 220 cu. ft. Material Steel Seamless, lap welded or riveted longitudinal joint Seamless
ile strength 28-32 tons thickness 4 1/4" Working pressure by rules 1000 lbs/p Is each receiver, which can be isolated,
safety valve as per Rule Safety valve fitted to Air Compressor Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their
Detachable end covers Is there a drain arrangement fitted at the lowest part of each receiver Yes

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IS A DONKEY BOILER FITTED?

HYDRAULIC TESTS:—

If so, is a report now forwarded?

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	Not tested	Limits above	thickness		
COVERS	None				
JACKETS	27.5.21, 7.6.21, 9.6.21.	5 lbs/sq	50 lbs/sq	LCH	
PISTON WATER PASSAGES	17.5.21, 18.5.21, 19.5.21	10 lbs/sq	100 lbs/sq	LCH	
MAIN COMPRESSORS—1st STAGE	24.5.21, 31.5.21	20 lbs/sq	500 lbs/sq	LCH	
2nd "	12.4.21	125 lbs/sq	500 lbs/sq	LCH	Common Cylinder Boilers
3rd "	3.6.21	900 lbs/sq	1800 lbs/sq	LCH	Slipped Trunk Piston Boilers
AIR RECEIVERS—STARTING	29.6.21	1000 lbs/sq	2000 lbs/sq	LCH	
INJECTION	18.2.21	1000 lbs/sq	2000 lbs/sq	W.G.H.	
AIR PIPES	27.5.21 - 30.8.21	1000 lbs/sq	2000 lbs/sq	LCH	
FUEL PIPES	16.6.21	900 lbs/sq	1800 lbs/sq	LCH	
FUEL PUMPS	7.6.21	900 lbs/sq	1800 lbs/sq	LCH	
SILENCER	Not tested	Atmospheric		LCH	
WATER JACKET	None				
SEPARATE FUEL TANKS	1.3.21, 9.3.21	Weight of oil	6 lbs/sq	LCH	

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

SPARE GEAR

Yes

Receivers

Yes

Separate Tanks

Yes

See Attached List

The spare gear required to be checked on board

The foregoing is a correct description,
CAMMELL LAIRD AND COMPANY LIMITED.

G. W. R. Laird

Manufacturer.

Dates of Survey while building
During progress of work in shops --
During erection on board vessel --
Total No. of visits

Dates of Examination of principal parts—Cylinders 21.12.20, 25.7.21 Covers None Pistons 9.12.20, 13.6.21 Rods 3.2.21, 31.5.21 Connecting rods 17.1.21
Crank shaft 3.2.21, 16.2.21 Thrust shaft 28.4.21, 28.5.21 Tunnel shafts ✓ Screw shaft ✓ Propeller ✓ Stern tube ✓ Engine seatings ✓
Engines holding down bolts ✓ Completion of pumping arrangements ✓ Engines tried under working conditions ✓
Completion of fitting sea connections ✓ Stern tube ✓ Screw shaft and propeller ✓
Material of crank shaft *Stemens Steel* Identification Mark on Do. 2802, W.G.H. 5378 J.P. Material of thrust shaft *Stemens Steel* Identification Mark on Do. 2728
Material of tunnel shafts ✓ Identification Marks on Do. ✓ Material of screw shafts ✓ Identification Marks on Do. ✓
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. "Fullagar."*

General Remarks (State quality of workmanship, opinions as to class, &c.) *This Cammell Laird Fullagar Oil Engine has been built under Special Survey & to the approved plans & Secretaries' letters (E) dated 15.9.21 & 3.1.21 & 3.3.21, the workmanship & materials are good & when tried at full power the shop was found satisfactory in every respect & is eligible in our opinion for the Port Engine for the above vessel in the M/s "MALIA".*
The Port Engine for the above vessel has been taken from the M/s FULLAGAR (No 1634) the Register. See Liverpool Report No 10757 herewith.

This engine is being fitted on board in Glasgow.

The amount of Entry Fee £4.00
Special £31.00
Donkey Boiler Fee £28.00
1/6 to be charged for fitting
Travelling Expenses (if any) £5.11.21

When applied for

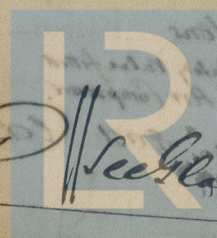
When received

John Dykes & Digby R. H. Collins
Engineer Surveyors to Lloyd's Register of Shipping

Committee's Minute LIVERPOOL - 9 SEP 1921

Assigned

Transmit to London



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