

Rpt. 4b

REPORT ON OIL ENGINE MACHINERY.

No. 28808

WFD. 14 MAY. 1924

Date of writing Report

19

When handed in at Local Office

13 MAY 1924

Port of

Received at London Office

SUNDERLAND.

No. in Survey held at
Reg. Book.

SUNDERLAND.

Date, First Survey

4th April 1923

Last Survey

11th May 1924

Number of Visits

57

on the ^{Single}
~~Triple~~

Screw vessel

M.V. "SILVERELM"

Tons { Gross 4351
Net 2638

Master

Built at Sunderland

By whom built

W. Doreford Sons

Vard No. 579

When built 1924

Engines made at

Sunderland

By whom made

W. Doreford Sons

Engine No. 579

When made 1924

Donkey Boilers made at

Annan

By whom made

Cochran & Co

Boiler No. 9194

When made 1924

Brake Horse Power

1760

Owners

Silvercedar Shipping Co Ltd

Port belonging to

London

Nom. Horse Power as per Rule

312

Is Refrigerating Machinery fitted for cargo purposes

NO

Is Electric Light fitted

YES

OIL ENGINES, &c.—Type of Engines

Doreford opposed piston

2 or 4 stroke cycle 2 Single or double acting single

Maximum pressure in cylinders

568

No. of cylinders

3

No. of cranks

3, 3 throw

Diameter of cylinders

21½" 540 mm

Length of stroke

2 x 1080 mm

Revolutions per minute

90

Means of ignition

Lamps. of compression

Kind of fuel used oil fuel F.P. at 150°

Is there a bearing between each crank

YES

Span of bearings (Page 92, Section 2, par. 7 of Rules)

980 mm

Distance between centres of main bearings

1240 mm side on, rods

Is a flywheel fitted

YES

Diameter of crank shaft journals

as per Rule 373 mm

as fitted 400 mm approx

Diameter of crank pins

430 mm

Breadth of crank webs

as per Rule 610 mm approx

Thickness of ditto

as per Rule 245 mm approx

as fitted 245 mm approx

Diameter of flywheel shaft

as per Rule 373 mm

as fitted 400 mm

Diameter of tunnel shaft

as per Rule 314 mm

as fitted 330 mm approx

Diameter of thrust shaft

as per Rule 373 mm

as fitted 400 mm

Diameter of screw shaft

as per Rule 340 mm

as fitted 350 mm approx

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

YES

Length of stern bush

5'-10"

Diameter of propeller

15'-6"

Pitch of propeller

13'-9"

No. of blades

4

state whether moveable

NO

Total surface

769 square feet

Method of reversing

compressed air

Is a governor or other arrangement fitted to prevent racing of the engine when declutched

YES

Thickness of cylinder liners

2" Kinniford

Are the cylinders fitted with safety valves

YES

Means of lubrication

Fried Lubrication

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

flue

No. of cooling water pumps

2

Is the sea suction provided with an efficient strainer which can be cleared

within the vessel

NO

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

3

How driven

10 1/2 x 10 1/2 + 24 (200 TONS PER HR)

and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room

10 1/2, 2 @ 2 1/2

and in holds, etc. N° 1 & 2, 2 @ 3 1/2, N° 3, 2 @ 3, N° 4, 1 @ 3 1/2, DEPT 2 @ 5'

No. of ballast pumps

1

How driven

Is the ballast pump fitted with a direct suction from the engine room bilges

YES

State size

8"

Is a separate auxiliary pump suction fitted in

MUD BOXES STRAIGHT

Engine Room and size

YES 4 1/2"

Are all the bilge suction pipes fitted with roses

YES IN HOLDS

Are the roses in Engine Room always accessible

TAIL PIPES

Are the sluices on Engine Room bulkheads always accessible

None

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

worked 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

YES

No. of main air compressors

None

No. of stages

3

Diameters

Stroke

Driven by

No. of auxiliary air compressors

2

No. of stages

3

Diameters

Stroke

Driven by

No. of small auxiliary air compressors

1

No. of stages

3

Diameters

Stroke

Driven by

No. of scavenging air pumps

1

Diameter

1540 mm

Stroke

610 mm

Driven by

Pumps driven from Main Eng. 3

Diameter of 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

AIR RECEIVERS:—No. of high pressure air receivers

1

Internal diameter

3'-6"

Cubic capacity of each

material

Seamless, lap welded or riveted longitudinal joint

working pressure by Rules

No. of starting air receivers

2

Internal diameter

3'-6"

Total cubic capacity

220 cu. ft.

Material

Steel Plate

Seamless, lap welded or riveted longitudinal joint

Riveted Joint

Range of tensile strength

28-32 tons

thickness

1 1/2"

Working pressure by rules

610 lb

Is each receiver, which can be isolated,

fitted with a safety valve as per Rule

YES

Can the internal surfaces of the receivers be examined

YES

What means are provided for cleaning their

inner surfaces

Man hole 16x12"

Is there a drain arrangement fitted at the lowest part of each receiver

YES

003100-003105-0034

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	5.11.23 to 14.12.23		30 lbs	579 GAH	Plain cylindrical / m. Book.
" " COVERS	✓	✓	✓	LLOYD TEST 30 lbs	
" " JACKETS	5.11.23 to 14.12.23	4 lbs	30 lbs	579 GAH	
" " PISTON WATER PASSAGES	14.12.23	30 lbs	100 lbs	LLOYD TEST 100 lbs 579 GAH	
MAIN COMPRESSORS—1st STAGE	none	—	—	—	
" 2nd "	✓	—	—	—	
" 3rd "	✓	—	—	—	
AIR RECEIVERS—STARTING	12.2.24	600 lbs	800 lbs	NO 579 LLOYD TEST 800 lbs GAH	
" INJECTION	✓	—	—	—	
AIR PIPES	6.3.24 to 8.5.24	600 lbs	1000 lbs	NO 579 LLOYD TEST 1000 lbs GAH	
FUEL PIPES	10.3.24	8000 lbs	12000 lbs	NO 579 LLOYD TEST 12000 lbs GAH	
FUEL PUMPS	16.4.24	8000 lbs	10000 lbs	NO 579 LLOYD TEST 10000 lbs GAH	
SILENCER	Lagged with asbestos composition & open to atmosphere				
" WATER JACKET	none	—	—	—	
SEPARATE FUEL TANKS	3.5.24	nil	10 lbs	NO 579 LLOYD TEST 10 lbs GAH	

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

Receivers

Separate Tanks

SPARE GEAR 1 Cyl. liner, jacket, 1 Pist. 1 offset, 12 Pist. Rings, 2 Centre cam rod lips end bearings complete, 1 Centre cam rod bolt, end bearing complete, 1 side cross head complete, 1 Side cam rod bottom end bearing complete, 1 main bearing complete, 1 set complete bolts for crank & 1 set for for tunnel shaft. 4 fuel valves complete, 1 starting valve, 1 relief valve, 1 scavange pump delivery & 1 suction valve & 4 discharge valves, 1 spur & 1 hand wheel cam shaft drive, 1 scavange pump piston ring, 1 fuel pump body complete, 3 extra rooms, 1 Propeller shaft, 1 Propeller, 1 bottom bracket for crank shaft. assorted bolts & nuts. 2000 various.

WILLIAM DOXFORD & SONS, Limited.

The foregoing is a correct description.

W. Doxford

Secretary.

Manufacturer.

Dates of Survey while building
During progress of work in shops - 23/ Apr. 4.10.13.17.25. May 2.8.16.31. June 12.25.26. July 11.13.19.27. Aug. 8.17. Sep. 3.12. Oct. 2.14.8.15.27
During erection on board vessel - Nov. 5.12.21. Dec. 14.14.27. 24/ Jan. 8.11.15.20.28.31. Feb. 12. Mar. 3.6.10.13.19.25.28. Apr. 7.12.16.24.28.30
Total No. of visits 57

Dates of Examination of principal parts—Cylinders 28.3.24 Covers ✓ Pistons 14.12.23 Rods 8.1.24 Connecting rods 8.1.24
Crank shaft 26.6.23 Thrust shaft 7.4.24 Tunnel shafts 7.4.24 Screw shaft 12.4.24 Propeller 12.4.24 Stern tube 13.3.24 Engine seatings 7.5.24
Engines holding down bolts 7.5.24 Completion of pumping arrangements 8.5.24 Engines tried under working conditions 12.5.24
Completion of fitting sea connections 19.3.24 Stern tube 19.3.24 Screw shaft and propeller 28.4.24
Material of crank shaft Steel Identification Mark on Do. 6956 J.S.C. Material of thrust shaft Steel Identification Mark on Do. 579 GAH
Material of tunnel shafts Steel Identification Marks on Do. 579 GAH Material of screw shafts Steel Identification Marks on Do. 579 GAH
Is the flash point of the oil to be used over 150° F. YES

Is this machinery duplicate of a previous case NO If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been built under special survey, the materials & workmanship are sound and good the main and aux. engines have been tried under working conditions with satisfactory results. The machinery renders the vessel eligible in my opinion to have record of 1-L.M.C. 5-24 oil engine

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 5-24. CL.
Oil Engines. 2SC.SA. 3/2 NHP.
3 Cy. 2 1/4" - 85. 2 DB 100 lb.

The amount of Entry Fee ... £ 5: : When applied for.
Special ... £ 71: 19: - 9 MAY 1924
Donkey Boiler Fee ... £ : : When received.
Travelling Expenses (if any) £ : : 12 MAY 1924

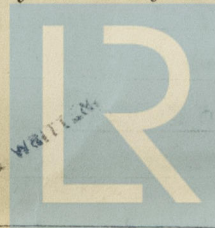
Committee's Minute

Assigned

TUE. 20 MAY. 1924

+ LMC 5-24. C.L.
oil engines

Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation