

REPORT ON OIL ENGINE MACHINERY.

No. 29312

Date of writing Report

19

When handed in at Local Office

29 SEP. 1926

Port of

Received at London Office

30 SEP. 1926

No. in Survey held at

Humberland

Date, First Survey

Jan 6

Last Survey

Sep 28 1926

Reg. Book.

Number of Visits

117

on the ^{Single} ~~Triple~~

Screw vessels MOTOR SHIP "SILVERASH"

Tons ^{Gross} 5299
^{Net} 3091

Built at

Humberland

By whom built

Joseph L. Thompson & Sons Ltd

Yard No. 555

When built 1916

Engines made at

Humberland

By whom made

Wm. D. Ford & Sons Ltd

Engine No. 157

When made 1926

Donkey Boilers made at

Annan

By whom made

Fochien & Co. Annan Ltd

Boiler No.

When made 1926

Brake Horse Power

5000

Owners

Silver Line, Ltd.

Port belonging to

London

Nom. Horse Power as per Rule

882

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

OIL ENGINES, &c.—Type of Engines

Simpson Opposed Piston

2 of 4 stroke cycle

Single or double acting

Single

Maximum pressure in cylinders

40 atmos

No. of cylinders

4

Diameter of cylinders

180 (26 3/4)

No. of cranks

4, 3 throw

Length of stroke

2 x 13 1/2

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge

1220 mm

Is there a bearing between each crank

Yes

Revolutions per minute

90

Flywheel dia.

10-6

Weight

19 1/2 tons

Means of ignition

Compression

Kind of fuel used

CRUDE OIL TANCOVER

Crank Shaft, dia. of journals

as per Rule 488 mm

as fitted 500 mm

Crank pin dia.

540 mm

Crank Webs

Mid. length breadth

370 220 mm

shrink

Thickness parallel to axis

310 mm

Flywheel Shafts, diameter

as per Rule 488 mm

as fitted 500 mm

Intermediate Shafts, diameter

as per Rule 405 mm

as fitted 410 mm

Thrust Shaft, diameter at collars

as per Rule 488 mm

as fitted 500 mm

Tube Shafts, diameter

as per Rule

as fitted

Screw Shaft, diameter

as per Rule 444 mm

as fitted 460 mm

Is the

screw

shaft fitted with a continuous liner

Yes

Bronze Liners, thickness in way of bushes

as per Rule 21 mm

as fitted 23 mm

Thickness between bushes

as per rule

as fitted

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 junctions made by fusion through the whole thickness of the liner

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

Is an approved Oil Gland or other appliance fitted at the after

end of the tube shaft

Yes

Length of Bearing in Stern Bush next to and supporting propeller

6-11

Propeller, dia.

18-3

Pitch

17-3

No. of blades

4

Material

Bronze

whether Moveable

No

Total Developed Surface

105 sq. feet

Method of reversing Engines

Compressed air

Is a governor or other arrangement fitted to prevent racing of the engine when de-clutched

Yes

Means of lubrication

Forced

Thickness of cylinder liners

1/8 inch

Are the cylinders fitted with safety valves

Yes

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

EXHAUST

Cooling Water Pumps, No.

2

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

FRESH WATER COOLING

Bilge Pumps fitted to the Main Engines, No.

Yes

Diameter

Stroke

Can one be overhauled while the other is at work

Yes

Pumps connected to the Main Bilge Line

No. and Size

1, BILGE PUMP 50 TONS PER HR. 1 GENERAL S. PUMP 50 TONS PER HR. 1 BALLAST PUMP 300 TONS PER HR.

How driven

ELECTRIC MOTORS

EACH CAPABLE FOR FULL DUTY.

Ballast Pumps, No. and size

1, 300 TONS PER HOUR

Lubricating Oil Pumps, including Spare Pump, No. and size

2, 50 TONS PER HOUR

Are two independent means arranged for circulating water through the Oil Cooler

Yes

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Engine and Boiler Room

4, 2 1/2" ON BILGE LINE

1, 5" DIRECT GEN. S. PUMP

1, 2 1/2" DIRECT TO BALLAST PUMP

In Holds, &c.

4, 2 1/2" AFTER HULL

4, 2 1/2" FORWARD

2, 2 1/2" IN FORWARD

2, 2 1/2" IN AFT DEEP TANKS

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

1, 2 1/2"

1, 2 1/2"

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

Yes

Are the Bilge Suctions in the Machinery Space

led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Yes

Are all Sea Connections fitted direct on the skin of the ship

Yes

Are they fitted with Valves or Cocks

BOTH

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform

Yes

Are the Overboard Discharges 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 the Blow Off Cocks fitted with a spigot and brass covering plate

Yes

What pipes pass through the bunkers

None

How are they protected

Yes

What pipes pass through the deep tanks

None

Have they been tested as per Rule

Yes

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Yes

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another

Yes

Is the Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from TOP PLATFORM

Main Air Compressors, No.

2

No. of stages

2

Diameters

Stroke

Driven by

ELECTRIC

Auxiliary Air Compressors, No.

2

No. of stages

3

Diameters

Stroke

Driven by

MOTOR

Small Auxiliary Air Compressors, No.

ONE

No. of stages

2

Diameters

Stroke

Driven by

PARAFFIN ENGINE

Scavenging Air Pumps, No.

ONE

Diameter

Stroke

Driven by

MAIN ENGINE

Auxiliary Engines crank shafts, diameter

as per Rule 174 mm

as fitted 180 mm

as per Rule

as fitted

as per Rule

as fitted

AIR RECEIVERS:—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

MANHOLE DOOR

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

Yes

High Pressure Air Receivers, No.

2

Cubic capacity of each

Internal diameter

Thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure by Rules

Starting Air Receivers, No.

TWO

Total cubic capacity

Internal diameter

Thickness

Working pressure by Rules

Seamless, lap welded or riveted longitudinal joint

RIVETED

Material

STEEL

Range of tensile strength

Working pressure by Rules

608 atmos

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	Plain cylindrical form soundness ascertained by inspection				
COVERS	NONE.				
JACKETS	17/4/26 to 15/5/26	4 lbs.	30 lbs.	J.H.	
PISTON WATER PASSAGES	31/5/26	30 lbs.	100 lbs.	J.H.	
MAIN COMPRESSORS—1st STAGE	✓	✓	✓	✓	
2nd ..	✓	✓	✓	✓	
3rd ..	✓	✓	✓	✓	
AIR RECEIVERS—STARTING	18/6/26	600 lbs.	800 lbs.	No 4242 J.H.	
INJECTION	✓	✓	✓	✓	
AIR PIPES	1/7/26	600 lbs.	1000 lbs.	J.H.	
FUEL PIPES	9/6/26 & 22/6/26	8000 lbs.	12000 lbs.	J.H.	
FUEL PUMPS	9/6/26	8000 lbs.	12000 lbs.	J.H.	
SILENCER	Lagged with asbestos open to atmosphere				
WATER JACKET	None.				
SEPARATE FUEL TANKS	30/6/26		10 lbs.	J.H.	

PLANS. Are approved plans forwarded herewith for Shafting *Yes* Receivers *Yes* Separate Tanks *Yes*
(If not, state date of approval)
Donkey Boilers *Yes* General Pumping Arrangements *Yes* Oil Fuel Burning Arrangements *Yes*

SPARE GEAR 1 flywheel liner, 1 main piston complete with skirt, 12 piston rings, 2 centre cam Rod top end bearings with both joints, 1 centre cam Rod bottom end bearing with both joints, 1 side x head with shoes complete, 1 side cam Rod bottom end bearing with both joints, 1 main bearing with studs joints, intermediate straight lengths for crankshaft, 3 crank shaft & 8 tunnel shaft coupling bolts, 1 upper & 1 lower wheel for crankshaft drive, 4 fuel valves & levers, 1 starting & 1 relief valve, 4 seawater suction & delivery valves & 1 fuel pump body complete with 4 extra vanes & guides, 1 spare propeller shaft, 1 C.I. Propeller, 1 complete set of springs, 1 set of bearings & valves & pump for a compression, 1 set of valves for oil burning plant, 1 set of valves for each bilge & transfer pump, 1 set of valves & joints for 1/2 ton & 1/4 ton.

The foregoing is a correct description.

W. H. Miller

Manufacturer.

Dates of Survey while building	During progress of work in shops--	1926. Jan. 6, 7, 15, 22, 25, 28, 29. Feb. 1, 2, 3, 8, 10, 17, 19, 23, 25, 26. Mar. 1, 2, 3, 8, 9, 10, 12, 17, 18, 23, 24, 25, 26, 29, 31. Apr. 1, 7, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 26, 27, 28, 29. May 3, 4, 6, 10, 11, 12, 15, 17, 18, 19, 21, 28, 31. June 1, 23.
	During erection on board vessel--	7, 8, 9, 11, 15, 16, 18, 19, 21, 22, 25, 26, 29, 30. July 1, 2, 19, 20, 21, 22, 27, 28, 30. Aug. 3, 5, 9, 10, 11, 23, 24, 25, 26, 27, 30, 31. Sep.
	Total No. of visits	117.

Dates of Examination of principal parts—Cylinders 26/4/26 Covers — Pistons 31/5/26 Rods 23/3/26 Connecting rods 20/4/26.

Crank shaft 15/4/26. Flywheel shaft 4/5/26 Thrust shaft 27/4/26 Intermediate shafts 24/8/26 Tube shaft —

Screw shaft 3/8/26 Propeller 25/8/26 Stern tube 1/6/26 Engine seatings 30/8/26 Engines holding down bolts 3/9/26

Completion of fitting sea connections 9/8/26 Completion of pumping arrangements 20/9/26 Engines tried under working conditions 28/9/26.

Crank shaft, Material I. STEEL Identification Mark No. 1. WL Flywheel shaft, Material I. STEEL Identification Mark 5078 MR.

Thrust shaft, Material I. STEEL Identification Mark 5078 MR. Intermediate shafts, Material I. STEEL Identification Marks 5078 MR.

Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material I. STEEL Identification Mark 5078 MR.

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 engines & boilers of this vessel have been built under special favour & the materials & workmanship are good. On completion the machinery was tried at sea under full working conditions with satisfactory results.

The machinery throughout is now in a good & efficient condition & eligible in my opinion to have the notation LMC-9-26 & F.S.C.L. 9.26.

The amount of Entry Fee ... £ 6-0-0: When applied for,

Special ... £ 119-2-0: 24 SEP 1926

Donkey Boiler Fee ... £ 4-4-0: When received,

Travelling Expenses (if any) £ : 4-10-15

Committee's Minute TUES. 5 OCT 1926

Assigned

thurs 9 26

TUES. 15 NOV 1926

Oil Engines

CL

DB 12016

Harbottle
Engineer Surveyor to Lloyd's Register of Shipping.



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