

REPORT ON OIL ENGINE MACHINERY

Std. No. 29487

-6 AUG. 1927

Received at London Office

8 AUG 1927

Port of *Sunderland*

REMARKS.

Date of writing Report

When handed in at Local Office

No. in Survey held at
Reg. Book.*Sunderland*Date, First Survey 16th Nov. '27

Last Survey Aug 5 1927

Number of Visits

on the *Single* Screw vessel *M. V. "BERMUDA"*Tons
Gross
Net

Built at

Belfast

By whom built

*Wolman Black & Co*Yard No. *490* When built *1927*

Engines made at

Sunderland

By whom made

*Wm Dryden & Sons*Engine No. *103* When made *1927*

Donkey Boilers made at

By whom made

Boiler No. When made

Brake Horse Power

13500

Owners

Furness Withy

Port belonging to

Nom. Horse Power as per Rule

2772

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

ENGINES, &c.

Type of Engines

*Double Acting Reciprocating*2 or 4 stroke cycle *2* Single or double acting *Single*

Maximum pressure in cylinders

588 lb

No. of cylinders

4

Diameter of cylinders

600" 2 1/2"

No. of cranks

4 Strength of stroke *1800" 10 1/2"*

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

1050" 1/2"

Is there a bearing between each crank

Yes

Revolutions per minute

118

Flywheel dia.

7'

Weight

8 tons

Means of ignition

*Electric*Kind of fuel used *Crude oil*

Crank Shaft, dia. of journals

400" 1/2"

as per Rule

430" 1/2"

Crank pin dia.

400" 1/2"

Crank Webs

Mid. length breadth *850" 1/2"*Mid. length thickness *260" 1/2"*

shrink

Thickness parallel to axis *260" 1/2"*

Wheel Shafts, diameter

400" 1/2"

as per Rule

430" 1/2"

Intermediate Shafts, diameter

as per Rule

as fitted

Thrust Shaft, diameter at collars

Screw Shafts, diameter

400" 1/2"

as per Rule

430" 1/2"

Screw Shaft, diameter

as per Rule

as fitted

Is the

tube

screw

shaft fitted with a continuous liner

Liners, thickness in way of bushes

*as per Rule**as fitted*

Thickness between bushes

*as per Rule**as fitted*

Is the after end of the liner made watertight in the

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 the 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

Yes

Length of Bearing in Stern Bush next to and supporting propeller

10' 6"

Propeller, dia.

10' 6"

Pitch

20"

No. of blades

4

Material

Cast Iron

Whether Moveable

Yes

Total Developed Surface

sq. feet

Method of reversing Engines

Reversed in

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

Yes

Means of lubrication

Oil

Thickness of cylinder liners

1" Reinforced

Are the cylinders fitted with safety valves

Yes

Are the exhaust pipes and silencers water cooled or lagged with

Yes

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

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

Yes

Can one be overhauled while the other is at work

Yes

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

2

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Yes

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

2

Are the Bilge Suctions in the Machinery Space

Yes

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

Yes

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

Yes

all Sea Connections fitted direct on the skin of the ship

Yes

Are they fitted with Valves or Cocks

Yes

they fixed sufficiently high on the ship's side to be seen without lifting the plating plates

Yes

Are the Overboard Discharges above or below the deep water line

Yes

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

Yes

How are they protected

Yes

Have they been tested as per Rule

Yes

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

Yes

Is the Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Yes

wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Yes

No. of stages

1

Auxiliary Air Compressors, No.

1

No. of stages

1

Diameters

1580" 1/2"

Stroke

880" 1/2"

Driven by

main engine

No. of stages

1

Auxiliary Air Compressors, No.

1

No. of stages

1

Diameters

1580" 1/2"

Stroke

880" 1/2"

Driven by

main engine

No. of stages

1

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Yes

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

Yes

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

Yes

all Sea Connections fitted direct on the skin of the ship

Yes

Are they fitted with Valves or Cocks

Yes

Are the Overboard Discharges above or below the deep water line

Yes

they fixed sufficiently high on the ship's side to be seen without lifting the plating plates

Yes

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

Yes

How are they protected

Yes

Have they been tested as per Rule

Yes

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

Yes

Is the Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Yes

wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Yes

No. of stages

1

Auxiliary Air Compressors, No.

1

Auxiliary Air Compressors, No.

1

No. of stages

1

Diameters

1580" 1/2"

Stroke

880" 1/2"

Driven by

main engine

No. of stages

1

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Yes

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

Yes

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

Yes

all Sea Connections fitted direct on the skin of the ship

Yes

Are they fitted with Valves or Cocks

Yes

Are the Overboard Discharges above or below the deep water line

Yes

they fixed sufficiently high on the ship's side to be seen without lifting the plating plates

Yes

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

Yes

How are they protected

Yes

Have they been tested as per Rule

Yes

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

Yes

Is the Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Yes

wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Yes

No. of stages

1

Auxiliary Air Compressors, No.

1

Auxiliary Air Compressors, No.

1

No. of stages

1

Diameters

1580" 1/2"

Stroke

880" 1/2"

Driven by

main engine

No. of stages

1

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Yes

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

Yes

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

Yes

all Sea Connections fitted direct on the skin of the ship

Yes

Are they fitted with Valves or Cocks

Yes

Are the Overboard Discharges above or below the deep water line

Yes

they fixed sufficiently high on the ship's side to be seen without lifting the plating plates

Yes

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

Yes

How are they protected

Yes

Have they been tested as per Rule

Yes

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

Yes</

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	Plain cylindrical form		soundness ascertained by inspection		
COVERS	None				
JACKETS	3/5/27 to 6/7/27	4 lbs.	30 lbs.	J.H. & date.	
PISTON WATER PASSAGES	18/5/27 & 28/6/27	30 lbs.	100 lbs.	J.H. & date.	
MAIN COMPRESSORS—1st STAGE					
2nd					
3rd					
AIR RECEIVERS—STARTING					
INJECTION					
AIR PIPES	23/6/27 & 25/7/27	800 lbs.	1000 lbs.	J.H. & date.	
FUEL PIPES	18/5/27, 29/6/27, 21/7/27	8000 lbs.	12000 lbs.	J.H. & date.	
FUEL PUMPS	27/7/27, do	8000 lbs.	12000 lbs.	J.H. & date.	
SILENCER					
WATER JACKET					
SEPARATE FUEL TANKS					

PLANS, Are approved plans forwarded herewith for Shafting

crank
for
General Pumping Arrangements

Receivers

Separate Tanks

Donkey Boilers

Oil Fuel Burning Arrangements

SPARE GEAR 2 cylinders liners, 2 pistons with rings & rods, 6 pistons, 60 piston rings, 2 centre crank rod top end bearings with bolts & nuts, 1 centre xhd shoe, 1 centre C rod spherical bearing with bolts & nuts, 1 side xhd with shoes & bolts & nuts, 2 side C Rod bottom end spherical bearings with bolts & nuts, 1 main bearing with bolts & nuts, 2 sets coupling bolts & nuts, 4 spare wheels, 1 barrel wheel for crankshaft drive, 8 fuel valves complete, 4 sets levers, 16 fuel valve bodies, 4 starting valves, 4 relief valves, 4 seawater pump suction & delivery valves, 4 fuel pump bodies complete, 1 complete set of springs & buffers for 1st & 2nd gear frame, 48 ft fuel pipe with unions, 1 bolts & nuts, 1 iron various sizes, 1 set of

The foregoing is a correct description.

Spare gear to be examined on vessel.

Manufacturer.

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

Dates of Examination of principal parts—Cylinders	3/5/27, 6/7/27	Covers	✓	Pistons	18/5/27, 21/6/27	Rods	2/2/27, 21/3/27	Connecting rods	21/1/27, 6/2/27
Crank shaft	29/3/27	Flywheel shaft	12/4/27	Thrust shaft	12/4/27	Intermediate shafts		Tube shaft	
Screw shaft		Propeller		Stern tube		Engine seatings		Engines holding down bolts	

Completion of fitting sea connections	Completion of pumping arrangements	Engines tried under working conditions	
Crank shaft, Material	I STEEL	Identification Mark	2614, 507, 508, 2615, 1941, 2616, 2541, 2542, 5827 D.
Thrust shaft, Material	I STEEL	Identification Mark	5407 D. MR.
Tube shaft, Material		Identification Mark	
Screw shaft, Material		Identification Mark	

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

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. This machinery has been built under Special Survey & the materials & workmanship are good. On completion the engines were tried in the shop under water brake test. The machinery is eligible in my opinion to have the record of LMC with date when satisfactorily fitted in the vessel.

The amount of Entry Fee	£ 6-0-0	When applied for,	
Special	£ 135-9-0	6 AUG. 1927	
Donkey Boiler Fee	£ :	When received,	
Travelling Expenses (if any)	£ :	14 Sept. 1927	

Committee's Minute

Assigned

See Rel. 88 up to 9872 attached

Harbottle

Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 22 JAN 1932



© 2020

Lloyd's Register Foundation