

## REPORT ON OIL ENGINE MACHINERY.

No. 1935

Received at London Office JUL 28 1937

Survey Report. 23<sup>rd</sup> July 1937 When handed in at Local Office

10

Port of

BREMEN

Survey held at BREMEN &amp; WESERMÜNDE

Date, First Survey

11<sup>th</sup> August 1936Last Survey 21<sup>st</sup> July 1937

Number of Visits 86

on the ~~Single~~  
~~Twin~~  
~~Triple~~  
~~Quadruple~~ Screw vesselTAKORADIANTons { Gross 5452  
Net 3106

WESERMÜNDE

By whom built

DEUTSCHE SCHIFF UND MASCHINENBAU A.G.  
WERK. SEEBECK

Yard No. 572

When built 1937

made at BREMEN

By whom made

DEUTSCHE SCHIFF UND MASCHINENBAU A.G.  
WERK. A.G. WESER

Engine No. 140/4

When made 1937

Boilers made at

HAMBURG

By whom made

DEUTSCHE WERFT

Boiler No. 696

When made 1937

Horse Power 2 x 1200

2300

Owners

ELMINA CO LTD. ACCRA.

Port belonging to

FREETOWN

Horse Power as per Rule

577

Is Refrigerating Machinery fitted for cargo purposes

NO

Is Electric Light fitted

YES

For which vessel is intended

OPEN SEA SERVICE

16 9/16"

22 3/16"

Engines, &amp;c.—Type of Engines

TWO OIL ENGINES SINGLE REDUCTION GEARED TO ONE PROP. SHAFT  
WESER-MAN. G.6.2.U. 42/58

2 or 4 stroke cycle

2 Single or double acting SINGLE

Pressure in cylinders

45 kg/cm<sup>2</sup>

Diameter of cylinders

420 mm

Length of stroke

580 mm

No. of cylinders

2 x 6

No. of cranks

2 x 6

Rated Pressure

5.3 kg/cm<sup>2</sup>

Bearings, adjacent to the Crank, measured from inner edge to inner edge

510 mm

Is there a bearing between each crank

yes

Revolutions per minute

275

Flywheel dia.

Weight

Means of ignition

Dine principle

Kind of fuel used

Dine oil

Solid forged

dia. of journals

as per Rule

as fitted

Crank pin dia.

270 mm

Mid. length breadth

330 mm

Thickness parallel to axis

as per Rule

All built

as fitted

270 mm

Crank Webs

Mid. length thickness

140 mm

shrink

Thickness around eyehole

as per Rule

Shaft, diameter

as per Rule

as fitted

Intermediate Shafts, diameter

as per Rule

as fitted

Thrust Shaft, diameter at collars

as per Rule

as fitted

Shaft, diameter

as per Rule

as fitted

Screw Shaft, diameter

as per Rule

as fitted

Is the { tube } shaft fitted with a continuous liner {

yes

yes

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

yes

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

yes

one length

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

Bore are fitted, is the shaft lapped or protected between the liners

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

yes

If so, state type

Length of Bearing in Stern Bush next to and supporting propeller

1640 mm

Pitch

4690 mm

No. of blades

4

Material

brass

whether Moveable

no

Total Developed Surface

88 sq. feet

Means of reversing Engines

dine

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

yes

Means of lubrication

Thickness of cylinder liners

27 mm

Are the cylinders fitted with safety valves

yes

Are the exhaust pipes and silencers water cooled or lagged with

lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

to funnel

Water Pumps, No.

3

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

yes

Pumps worked from the Main Engines, No.

Diameter

Stroke

Can one be overhauled while the other is at work

connected to the Main Bilge Line

No. and Size

1 rotary self priming 200 m<sup>3</sup>/h, 2 piston pumps, 2 cyl. 230 dia. by 203 mm stroke

How driven

electrically

If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

no

Pumps, No. and size

1 rotary 200 m<sup>3</sup>/h

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

3 cog wheel 45 m<sup>3</sup>/h

Independent means arranged for circulating water through the Oil Cooler

yes

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

No. and size:—In Machinery Spaces

5 of 90 mm dia.

In Tunnel

2 of 90 mm

In Pump Room

No. I 2 of 90 mm

No. II 2 of 90 mm

No. III (Deep tank) 2 of 90 mm

No. IV 4 of 90 mm

No. V 1 of 50 mm

No. VI 2 of 65 mm

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

1 of 125 mm

1 of 180 mm

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

yes

Are the Bilge Suctions in the Machinery Spaces

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

yes

Sea Connections fitted direct on the skin of the ship

yes, steel chest

Are they fitted with Valves or Cocks

valves &amp; cocks

Fixed sufficiently high on the ship's side to be seen without lifting the platform plates

yes

Are the Overboard Discharges above or below the deep water line

above

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

Do pipes pass through the bunkers

none

How are they protected

—

Do pipes pass through the deep tanks

none

Have they been tested as per Rule

—

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

yes

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

space to another

yes

Is the Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from upper Eng. Room

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

Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Primary Air Compressors, No.

2

No. of stages

2

Diameters

200/75 mm

Stroke

188 mm

Driven by

Air Diesel Eng.

Auxiliary Air Compressors, No.

1

No. of stages

2

Diameters

98/38 mm

Stroke

75 mm

Driven by

" "

Provision is made for first Charging the Air Receivers

1 hand compressor, 2 Hays 120/40 mm dia. by 75 mm stroke

Suctioning Air Pumps, No.

2

Diameter

11200 m<sup>3</sup>/h

Stroke

11200 m<sup>3</sup>/h

Driven by

Main Engines

Primary Engines crank shafts, diameter

as per Rule

as fitted

130 mm

No. 3 of 165 BHP

1 of 25 kW

Position

Engine Room

Hatch 212

Auxiliary Engines been constructed under special survey

yes

Is a report sent herewith

yes



# AIR RECEIVERS:—Have they been made under survey

Are reports or certificates now forwarded *yes*

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 and cleaned *yes*

Is a drain fitted at the lowest part of each receiver *yes*

STARTING Injection Air Receivers, No. *1*

Cubic capacity of each *275 ltr.*

Internal diameter *416 Z*

thickness *7 Z*

Seamless, lap welded or riveted longitudinal joint *seamless*

Material *P.M. Steel*

Range of tensile strength *42-44 kg/cm<sup>2</sup>*

Working pressure *60 kg/cm<sup>2</sup>*

by Rules *50*

Actual *30*

Starting Air Receivers, No. *2*

Total cubic capacity *2 x 3800 ltr*

Internal diameter *1195 Z*

thickness *27.5 Z*

Seamless, lap welded or riveted longitudinal joint *lap welded*

Material *P.M. Steel*

Range of tensile strength *38-44 kg/cm<sup>2</sup>*

Working pressure *30 kg/cm<sup>2</sup>*

by Rules *30 kg/cm<sup>2</sup>*

Actual *30 kg/cm<sup>2</sup>*

## IS A DONKEY BOILER FITTED?

If so, is a report now forwarded? *yes*

Is the donkey boiler intended to be used for domestic purposes only *no*

PLANS. Are approved plans forwarded herewith for Shafting

(If not, state date of approval) *yes*

Receivers *yes*

Separate Fuel Tanks *yes*

Donkey Boilers *from Ramberg*

General Pumping Arrangements *yes*

Pumping Arrangements in Machinery Space *yes*

Oil Fuel Burning Arrangements *yes*

## SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes*

State the principal additional spare gear supplied *For Main Engines: 1 piston compl. 2 1/2 main bearing brns.*

*2 sets of linked pipes for piston cooling; 1 cylinder liner; 1 cylinder cover  
2 wings for scavenging blowers and 3 driving chains; 1 driving chain for  
fuel pump.*

The foregoing is a correct description,

Deutsche Schiff- und Maschinenbau Aktien-Gesellschaft

Manufacturer.

Dates of Survey while building  
During progress of work in shops: 1936 11.12.20.22. 1937 1.1.17.19.21.23.25.27.30. 1938 2.4.13.15.17.21.22.26.28. 1939 2.5.6.10.14.19.23.26.28. 1940 2.8.10.15.16.18.23.29.30.  
During erection on board vessel: 1937 3.12.13.21.25.28. 1938 1.11.17.22.25.28. 1939 2.9.13.15.17.21.  
Total No. of visits *86*

Dates of Examination of principal parts—Cylinders *4.2.37* Covers *17.4.37* Pistons *17.4.37* Rods *19.3.37* Connecting rods *19.3.37*

Crank shaft *25.2.37* Flywheel shaft *—* Thrust shaft *15.2.37* Intermediate shafts *20.4.37* Tube shaft *—*

Screw shafts *20.4.37* Propeller *27.4.37* Stern tube *26.11.36* Engine seatings *7.5.37* Engines holding down bolts *28.5.37*

Completion of fitting sea connections *3.5.37* Completion of pumping arrangements *17.7.37* Engines tried under working conditions *17.21.7.37*

Crank shaft, Material *P.M. Steel* Identification Mark *LLOYD'S 7.L. 11590.3.12.36* Flywheel shaft, Material *—* Identification Mark *7.L. 11576.30.11.36*

Thrust shaft, Material *P.M. Steel* Identification Mark *LLOYD'S M.B. 18393.27.7.36* Intermediate shafts, Material *P.M. Steel* Identification Mark *7.L. 11829.11.2.37*

Tube shaft, Material *—* Identification Mark *—* Screw shaft, Material *P.M. Steel* Identification Mark *LLOYD'S M.B. 11593.3.12.36*

Is the flash point of the oil to be used over 150° F. *yes* spare *7.L. 11736.11.1.37*

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *yes*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo in 2 deep tanks If so, have the requirements of the Rules been complied with *yes*

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *no*

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *GAMBIAN*

General Remarks (State quality of workmanship, opinions as to class, &c. *This Machinery has been tried under Special Survey in accordance with the approved plan, the Purchaser's letters, and in conformity with the requirements of the Rules. The materials used in the construction are made at works recognized by the Committee and tested as per Rule. The workmanship is of good quality. During two trial trips all the machinery has been tested under full working and manoeuvring condition and found satisfactory in all respects.*

*This machinery is eligible in our opinion to be classed in the For Reg. Book with records of: \* LMC. 7.37. OIL ENGINES, TAIL SHAFT CL.*

The amount of Entry Fee *RM 120.-* When applied for, *23.7.1937*

Special *2222.-* When received, *14.8.1937*

Donkey Boiler Fee *2*

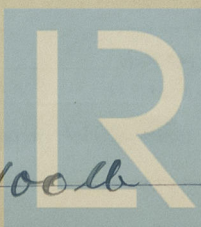
Travelling Expenses (if any) *200.-*

Committee's Minute *FRI 6 AUG 1937*

Assigned *+ Lmc 7.37* *see log AL*

*1 SB 100 lb 2 SB (WTB) 100 lb*

*H. Parstun G.H.B. B.A.M.*  
Engineer Surveyor to Lloyd's Register of Shipping.



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