

Rpt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 22126

21 DEC 1936

Date of writing Report 8<sup>th</sup> Dec. 1936. When handed in at Local Office

Port of HAMBURG.

No. in Survey held at AUGSBURG + HAMBURG Date, First Survey 14<sup>th</sup> Aug. Last Survey 25<sup>th</sup> Nov. 1936  
Reg. Book.

Number of Visits 21

Single  
on the ~~Port~~  
Triple  
Quadruple  
Screw vessel

"RIGEL"

Tons } Gross 1016  
Net 611.

Built at HAMBURG By whom built DEUTSCHE WERFT. A. G. Yard No. 176 When built 1936  
Engines made at AUGSBURG By whom made M. S. C. K. AUGSBURG-NÜRNBERG Engine No. 580140 When made 1936  
Donkey Boilers made at HAMBURG By whom made DEUTSCHE WERFT. A. G. Boiler No. 573 When made 1936  
Brake Horse Power 500/560 Owners TRELLEBORG'S ANGR. NYA AKTIEBOL. Port belonging to TRELLEBORG.  
Nom. Horse Power as per Rule 161 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES  
Trade for which vessel is intended CARRYING PETROLEUM IN BULK.

**OIL ENGINES, &c.**—Type of Engines 8 V 50 14 3/8 19 1/16 2 or 4 stroke cycle 4 Single or double acting single  
Maximum pressure in cylinders 49 kg/cm<sup>2</sup> Diameter of cylinders 365 mm. Length of stroke 500 mm. No. of cylinders 8 No. of cranks 8.  
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 452 mm. Is there a bearing between each crank yes  
Revolutions per minute 190/215 Flywheel dia. 1300 mm. Weight 2000 kg. Means of ignition Diesel prim. Kind of fuel used Diesel oil  
Crank Shaft, dia. of journals as per Rule app. Crank pin dia. 220 mm. Crank Webs Mid. length breadth 360 mm. Thickness parallel to axis  
as fitted 220 mm. Mid. length thickness 115 mm. Thickness around eye-hole  
Flywheel Shaft, diameter as per Rule app. Intermediate Shafts, diameter as per Rule app. Thrust Shaft, diameter at collars as per Rule app.  
as fitted 290 mm. as fitted 210 mm. as fitted 210 mm.  
Tube Shaft, diameter as per Rule approved. Is the tube screw shaft fitted with a continuous liner yes  
as fitted  
Bronze Liners, thickness in way of bushes as per Rule approved Thickness between bushes as per rule approved Is the after end of the liner made watertight in the  
as fitted 15 mm aft 16 mm. as fitted 11 mm.  
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  
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  
If two liners 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  
shaft If so, state type Length of Bearing in Stern Bush next to and supporting propeller 1000 mm.  
Propeller, dia. 2250 mm. Pitch 1600 mm. No. of blades 4 Material semi-steel whether Moveable no Total Developed Surface 1.613 sq. ft.  
Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication  
forced Thickness of cylinder liners 27 mm. Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled & 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  
Cooling Water Pumps, No. 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes  
What special arrangements are made for dealing with cooling water if discharged into bilges cooling water line overboard.  
Bilge Pumps worked from the Main Engines, No. 1 Diameter 95 mm. Stroke 160 mm. Can one be overhauled while the other is at work yes  
Pumps connected to the Main Bilge Line No. and Size 3 - 1-23.4 ltr 2 - self priming - rotary, each 25 ltr per hour.  
How driven main Eng. electric driven  
Ballast Pumps, No. and size Sec. Cargo Spr. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 - 1-3.9 ltr (main eng.)  
4 - 5 ltr electric driven.  
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 Machinery Spaces 4 - 1 of 7 1/2" 3 of 50 mm inside diam. - 2 of 50 mm outside diam. In Pump Room removable plug.  
In Holds, &c. Forward hold 1 of 5 1/2" - inside diam. - 1 from Fore Peak of 5 1/2" - 1 from Aft Peak of 50 mm inside diam.  
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 of 60 mm.  
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces  
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 valves & cocks  
Are they 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 & below  
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 How are they protected  
What pipes pass through the deep tanks Cargo lines 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 no hand Is it fitted with a watertight door worked from  
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork  
Main Air Compressors, No. solid injection No. 1 Diameters Stroke Driven by clutch, and driven by  
Auxiliary Air Compressors, No. 1 No. of stages 2 2 Diameters 155/58 1/2 Stroke 125 mm. Driven by elec. Diesel Eng. or motor  
Small Auxiliary Air Compressors, No. 1 No. of stages 2 2 Diameters 110/45 mm. Stroke 70 mm. Driven by hand.  
Scavenging Air Pumps, No. Diameter Stroke Driven by  
Auxiliary Engines crank shafts, diameter as per Rule approved No.:— 2 : 2 Pumps Sec. Hand. Rep. 22051-22052  
as fitted 75 mm. Position — main Engine Room Port & St. side.  
**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 and cleaned yes Is a drain fitted at the lowest part of each receiver yes  
High Pressure Air Receivers, No. 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. 3 - Total cubic capacity 2 - 800 ltr 1 - 30 ltr Internal diameter 572 mm. thickness 14 mm.  
Seamless, lap welded or riveted longitudinal joint 1 - solid drawn Material S. M. Steel Range of tensile strength 44-47 kg/cm<sup>2</sup> Working pressure Actual 30 kg/cm<sup>2</sup>  
by Rules approved.



## IS A DONKEY BOILER FITTED?

Is the donkey boiler intended to be used for domestic purposes only

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting

(If not, state date of approval)

Donkey Boilers

General Pumping Arrangements

Receivers

See Augt. Report.

Separate Tanks

Oil Fuel Burning Arrangements

## SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

## DESCRIPTION OF CARGO PUMPS in Pump Room, (a, b) and Forem. Cofferdam. (c)

- a). 2 - 2 cyl. D. A. Diam 200  $\frac{1}{2}$  Stroke 200  $\frac{1}{2}$ . 80 Low per hour. electric driven.  
 b). 1 - 2 cyl D. A. " 100 230  $\frac{1}{2}$  " 250  $\frac{1}{2}$  diam steam cyl. 220  $\frac{1}{2}$  80 per hour. steam driven.  
 c). 1 - 2 cyl D. A. " 152  $\frac{1}{2}$  " 152  $\frac{1}{2}$  " 114  $\frac{1}{2}$  - 12 " "

The foregoing is a correct description.

Dates of Survey  
 while building

During progress of  
 work in shops - -  
 During erection on  
 board vessel - -  
 Total No. of visits

2nd April 1936 - 14th July 1936. Please see Augt. Report.

HAMBURG - 1936 August: 15, 25. Sept. 16, 18, 19, 23, 24, 25.

Oct. 1, 5, 9, 10, 13, 20, 28, - Nov. 5, 9, 12, 20, 24, 25.

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Dates of Examination of principal parts—Cylinders

See Augt. Rep.

Covers Augt. Rep.

Pistons Augt. Rep.

Rods

Connecting rods Augt. Rep.

Crank shaft Augt. Rep.

Flywheel shaft

18/9/36

Thrust shaft

4

Intermediate shafts

18/9/36

Tube shaft

Screw shaft 19/9/36

Propeller 29/6-24/10/36

Stern tube 16/9-25/9/36

Engine seatings

1/10/36

Engines holding down bolts

3/10-5/11/36

Completion of fitting sea connections 25/10/36

Completion of pumping arrangements 12/11/36

Engines tried under working conditions

24-25/11/36

Crank shaft, Material S.M. Steel

Identification Mark

LLOYD'S 12.103

Flywheel shaft, Material

S.M. Steel

Identification Mark

LLOYD'S 669

Thrust shaft, Material

S.M. Steel

Identification Mark

LLOYD'S 668

Intermediate shafts, Material

See Thrust shaft

Identification Marks

Tube shaft, Material

Identification Mark

Screw shaft, Material

S.M. Steel

Identification Mark

LLOYD'S 3090

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

yes

SPARE: 675 H.B. 8.6.36

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

Lumber

If so, have the requirements of the Rules been complied with

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with

See Letter. London E. 28/5/36.

Is this machinery duplicate of a previous case

yes

If so, state name of vessel

See Augt. Report.

General Remarks (State quality of workmanship, opinions as to class, &amp;c.)

The main engine has been built at Augt. and the Auxiliary Diesel Engines under Special Survey of the Society's Surveyors. Material and workmanship of this machinery are of good quality and the outfit is ample. It has been fitted under Special Survey at Hamburg in accordance with the approved plans, the Society's Letter and otherwise in conformity with the requirements of the Rules. I attended to a 12 hours trial trip when it has given full satisfaction under full working and manoeuvring conditions. This machinery is eligible in my opinion to be classed in the Society's Reg. Rk. with notation "LMC-11,36 Oil Eng. - T.S.H.-CL."

The amount of Entry Fee

15 RM : 12-:

When applied for,

Special

15 RM 1.61-:

15/11 36

Donkey Boiler Fee

See DB Report

When received,

Travelling Expenses (if any)

RM 58-:

22.1 37

Committee's Minute

Assigned

Friedrich Giff

Engineer Surveyor to Lloyd's Register of Shipping.



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