Report on Oil Engine Machinery.

No. 2164.

- 2 JUL 1943

Date of sending Report 15th June, 1943. When handed in at Local Office 17th June, 1943. Port of Malmö. Received at London Office .....

Last Survey held at Malmö. Date, First Survey 27th Oct. 1941. Last Survey 25th May, 1943.

Log Book. Number of Visits 152.

✓ Single on the ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel "GLIMMINGEHUS". Tons Gross 8548. Net 5132.

Built at Malmö. By whom built Kockums Mek. V. A:B. Yard No. 248. When built 1943.

Engines made at Malmö. By whom made Kockums Mek. V. A:B. Engine No. 295. When made 1943.

Donkey Boilers made at Malmö. By whom made Kockums Mek. V. A:B. Boiler No. 993/4. When made 1943.

Brake Horse Power 4500. Owner Trelleborgs Angfartygs Nya A:B. Port belonging to Trelleborg.

Indicated Horse Power as per Rule 1361. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

Trade for which vessel is intended ✓

ENGINES, &c. Type of Engines MAN. D7. Zu 60/110. 2 or 4 stroke cycle 2. Single or double acting Double.

Maximum pressure in cylinders 50 kg. cm². 238" 43 5/16" Diameter of cylinders 600 mm. Length of stroke 1100 mm. No. of cylinders 7 No. of cranks 7

Mean Indicated Pressure 5.5 " Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 860 mm. Is there a bearing between each crank Yes.

Revolutions per minute 120 110 in approved Flywheel dia 2093 mm. Weight 5770 kgs. Means of ignition Diesel ignt. Kind of fuel used Heavy oil.

Crank Shaft, ~~Solid forged~~ Semi built All built dia. of journals as fitted 420 mm. Crank pin dia 420 mm. Crank Webs Mid. length breadth 700 mm. Mid. length thickness 265 mm. Thickness parallel to axis of shaft Journals. 265 mm. Thickness around eyehole 207 mm. 197.5

Flywheel Shaft, diameter as fitted 420-372 mm. Intermediate Shafts, diameter as fitted 354 mm. Thrust Shaft, diameter at collars as fitted 375 mm.

Tube Shaft, diameter as per Rule ✓ as fitted ✓ Screw Shaft, diameter as fitted 395 mm. Is the {tube / screw} shaft fitted with a continuous liner Yes.

Bronze Liners, thickness in way of bushes as fitted 20 mm. Thickness between bushes as fitted 15 mm. 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 ✓

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 No If so, state type ✓ Length of Bearing in **Stern Bush** next to and supporting propeller 1520 mm.

Propeller, dia 5000 mm. Pitch 4050 mm. No. of blades 4 Material Cast iron Whether Moveable No. Total Developed Surface 87 sq. feet

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 41.5 mm. Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Led to the funnel.

Cooling Water Pumps. No 2 salt water each of 240 m³/H. Is the sea provided with an efficient strainer which can be cleared within the vessel Yes

2 fresh " " " 240 m³/H.

Bilge Pumps worked from the **Main Engines.** No None ✓ Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

Pumps connected to the **Main Bilge Line** { No. and Size 3. 1 of 100 m³/H. & 2 of 40 m³/H. each. 1 of 50 m³/H. (In main pump room) 1 of 30 m³/H. (In fwd. pump room) / How driven 1 steam driven, 2 elec. driven. Steam driven.

Is the cooling water led to the bilges Led overboard If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pump arrangements ✓

Ballast Pumps, No and size 1 - 100 m³/H. **Power Driven Lubricating Oil Pumps**, including Spare Pump, No. and size 2. Each of 36 m³/H.

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 3 - 3½". 1 - 2". 2 - 3½" in after cofferd. 2 - 3½" in main pump room In Pump Room fwd. 1 - 3½".

In Holds, &c 2 - 3½" in dry cargo hold. 2 - 3½" in fore cofferdam.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 - 5". 1 - 4".

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 Both.

Are they fitted sufficiently high on the ship's side to be seen without lifting the platform plates Yes, or by lifting special covers. Are the Overboard Discharges above or below the deep water line. Above.

Are they each fitted with a Discharge Valve always accessible on the platform 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 Suction pipes from cofferd. 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 Tunnel Is it fitted with a watertight door ✓ worked from ✓

In a cargo vessel, what means are provided to prevent leakage of either sea water or of lubricating oil from saturating the woodwork ✓

Main Air Compressors, No None ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Auxiliary Air Compressors, No 2 No. of stages 2 Diameters 300 & 110 mm Stroke 230 mm. Driven by Aux. oil (dynamo) eng. Aux. generator steam engine.

Emergency Air Compressors, No 1 No. of stages 2 Size 1.5 m³ atm. air/H. Stroke ✓ Driven by ✓

Provision is made for dual Charging the Air Receivers ✓

Bilge Air Pumps, 2 Tandem Diameters 1380 mm. Stroke 970 mm. Driven by 2 Main engine.

152 mm. 170 mm. LLOYD'S 10913, 10919 Pr. 2.1.1942. in engine room.

Yes.

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Yes

Yes

Yes

Small start. 1 — 200 litres — 444 mm. — 13 mm.

Seamless — Steel — 51.5 kg. mm.^{2} — 64.9 kg. cm.^{2} — 30 "

2 — 12 m^3 — 1450 mm. — 25 mm.

Shell: 46.7 - 47.6 kg. mm.^{2} Ends: 44.1 - 44.8 " — 33 kg. cm.^{2}

Rivited — Steel — 30 "

Yes — Yes

No.

2-5-1941 — 2-5-1941 — See plan of oil fuel bunker

21-4-1941 — 28-5-1941 — 25-11-1941.

11-3-1940.

SPARE GEAR

Yes

Main engine:- 1 top and 1 bottom cylinder liner. 1 top and 1 bottom cylinder cover. 3 complete pistons with rods. 8 complete piston rod packing boxes. 1 complete fuel pump. 1 propeller shaft.

Aux. oil engines:- 2 cylinder covers. 3 cylinder liners. 2 pistons. 1 crank shaft Lloyd's No. 10914. PK. 2-1-42.

(Cont. on sheet II.)

Kockums Mek. Verkstads A.B. sgd/. G. Lundeqvist / E. Hort. Manufacturers

27/10·28/10·6/11·7/11·18/12·1941·26/1·10/3·13/3·14/3·16/3·17/3·18/3·15/4·16/4·14/4·8/5·11/5·13/5·15/5·16/5·18/5·19/5·27/5·28/5·29/5·30/5·1/6·2/6·3/6·3/6·4/6·5/6·6/6·8/6·
10/6·11/6·12/6·15/6·16/6·17/6·18/6·19/6·20/6·1/7·3/7·8/7·9/7·11/7·14/7·17/7·20/7·23/7·25/7·27/7·31/7·1/8·8/8·11/8·15/8·21/8·22/8·24/8·25/8·26/8·29/8·1/9·3/9·4/9·7/9·8/9·11/9·
14/9·16/9·17/9·21/9·25/9·26/9·28/9·29/9·30/9·1/10·2/10·3/10·5/10·6/10·7/10·9/10·12/10·13/10·17/10·21/10·26/10·29/10·31/10·25/11·28/11·7/12·9/12·17/12·16/12·30/12·1942·5/1·1943·
19/1·27/1·28/1·29/1·1/2·4/2·10/2·15/2·17/2·18/2·19/2·22/2·23/2·24/2·25/2·3/3·5/3·6/3·10/3·15/3·17/3·19/3·22/3·23/3·24/3·17/3·27/3·30/3·31/3·1/4·3/4·9/4·13/4·
14/4·20/4·27/4·28/4·29/4·30/4·3/5·5/5·7/5·10/5·11/5·14/5·17/5·24/5·25/5-1943.

Total No. of visits 152.

27/10·1941 - 18/6·1942. 26/1 - 7/11·1942. 14/3 - 25/5·1942 — 11/8-1942 — 17/4·18/5·27/5-1943

Cylinders (15 visits) Covers 14 visits Pistons (12 visits) Rods — Connecting rods

After trial in shop: 31-10-42 — Flywheel shaft 18-6-1942 — Thrust shaft 28-11-1942 — Intermediate shafts 28-11-1942 — Tube shaft ✓

Screw shaft 30-2-1942 — Propeller 19-1-1943 — Stern tube 13-10-1942 — Engine seatings 12-2-1943 — Engines holding down bolts 19-2-1943.

Completion of fitting sea connections 5-1-1943 — Completion of pumping arrangements 17-5-1943 — Engines tried under working conditions

Crank shaft Material Steel — Identification Mark LLOYD'S 10884.PK.6-3-42 — Flywheel shaft, Material Steel — Identification Mark LLOYD'S 145.AS. 18-6-42

Thrust shaft Material " — Identification Mark LLOYD'S 6458.AB.28-11-42 — Intermediate shafts, Material " — Identification Mark LLOYD'S 212 AB. 28-11-42

Spare screw shaft Material " — Identification Mark LLOYD'S 259.SA. 20-2-42 — Screw shaft, Material " — Identification Mark LLOYD'S 258 SA. 20-2-42

Identification Marks on Air Receivers Nos. 103 & 104. Lloyd's Test 44 kg. cm.^{2} W.P. 30 kg. cm.^{2} AS. 8-7-42.

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

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. Tanker. 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 No.

Is this machinery duplicate of a previous case Yes. If so, state name of vessel M/T "LILLÖHUS".

GENERAL REMARKS The aux. power machinery of this vessel consists of two 3-cylinder 4 stroke, single acting, compressorless, heavy oil engines built by Messrs Kockums Mek. V. A. B., Malmö. The cylinders are 275 mm. in diam., stroke 420 mm. and R.P.M. = 350. Each engine is driving an electric generator of 120 K.W., 230 V. & 522 A.
A steam engine driven generator of 90 K.W. is also installed.
The main and aux. engines of this vessel have been built under special survey in accordance with the Rules and the approved plans. The materials fulfil the Rule requirements & the workmanship is good. The shaftings as per forging rpts. enclosed herewith.
The machinery of this vessel is eligible, in our opinion, to be classed in the Reg. Book of this Society with record of ✠LMC with date, when the survey has been completed.
Working pressure of donkey boilers 171 lbs. per sq. inch.

Main engines, pumps, etc. completed.

1 Kr. 114:-
1 Kr. 2546:48 17th June 43.
S.S. of 2 start. air receivers 1 Kr. 119:70
Test & insp. of forgings 1 Kr. 40:-

A. Lundén, A. Börring
Engineer Surveyors to Lloyd's Register of Shipping

FRI. 9 JUL 1943

No action

II

Malmö — Mchy. 2164 — 17th June, 1943 — 2 JUL 1943

M/T "GLIMMINGEHUS" of Trelleborg.

Additional pumps:-

In motor space:-

1 sanitary pump of 20 m^3/H.	Electric driven.
2 " " " 3 "	" "
1 oil transfer " " 30 "	" "
1 " " " " 20 "	Steam "
1 cool. water pump for nozzles of 3 m^3/H.	Electric "
2 units of oil fuel pumps for Donkey boilers.	Steam "
2 feed pumps. Duplex 6" × 4" × 6".	" "

In main pump room:-

2 cargo pumps, Duplex 20" × 14" × 24".	Steam driven.

In pump room forward:-

1 oil transfer pump of 30 m^3/H.	Electric driven.

To complete survey:-

The main and auxiliary engines and pumps to be tried under working conditions.
It cannot be stated when the survey will be completed.

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