

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

26 SEP 1935

Date of writing Report

When handed in at Local Office

19

Port of Copenhagen

No. in Survey held at

Date, First Survey

Last Survey

Reg. Book.

39855 on the Red Single Screw Steamer **RAGNA GORTHON**

(Number of Visits 34)

Gross 1848.06

Net 1551.82

Built at **Nalborg**By whom built **Nalborg Maskin- og Skibsbyggeri** Yard No. 53.

When built 1935

Engines made at **Elsinore**By whom made **Elsinore Jernskibs- og Maskinbyggeri** Engine No. 310

when made 1935

Boilers made at **Nalborg**By whom made **Nalborg Maskin- og Skibsbyggeri** Boiler No. 162

when made 1935

Registered Horse Power

Owners

Port belonging to **Nalborg**

Nom. Horse Power as per Rule 241

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which Vessel is intended **General cargo**ENGINES, &c.—Description of Engines **Steam reciprocating engine for open sea service with 2 HP cylinders and 1 LP cylinder combined with an exhaust steam turbine on the Elsinore system** Revs. per minute 805Dia. of Cylinders **2HP 400 1/2 LP 1000 1/2** Length of Stroke **950 1/4** No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule 257 1/4 as fitted 265 1/4 Crank pin dia. 265 1/4 Crank webs Mid. length breadth 420 1/4 Thickness parallel to axis 165 1/4

Intermediate Shafts, diameter as per Rule 961 1/2 ~ 244 1/4 as fitted 286 1/4 Thrust shaft, diameter at collars as per Rule 257 1/4 as fitted 275 1/4

Tube Shafts, diameter as per Rule 287.18 1/4 as fitted 306 1/4 Is the tube shaft fitted with a continuous liner

Screw Shaft, diameter as per Rule 16.3 1/4 as fitted 22.0 1/4 Thickness between bushes as per Rule 22.0 1/4 as fitted 22.0 1/4 Is the after end of the liner made watertight in the

Bronze Liners, thickness in way of bushes as per Rule 16.3 1/4 as fitted 22.0 1/4 Thickness between bushes as per Rule 22.0 1/4 as fitted 22.0 1/4 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 **one length**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 tubeshaft **No** If so, state type **Yes** Length of Bearing in Stern Bush next to and supporting propeller **1400 1/4**Propeller, dia. **422 1/2** Pitch **3196 1/2** No. of Blades 4 Material **Brass** whether Moveable **No** Total Developed Surface **5.9** feetFeed Pumps worked from the Main Engines, No. 2 Diameter 110 1/4 Stroke 250 1/4 Can one be overhauled while the other is at work **Yes**Bilge Pumps worked from the Main Engines, No. 2 Diameter 110 1/4 Stroke 250 1/4 Can one be overhauled while the other is at work **Yes**Feed Pumps No. and size **2 off vertical simplex 200 1/2 x 150 1/2 x 275 1/4** Pumps connected to the Main Bilge Line No. and size **1 off duplex ball 1/2 p. 230 x 230 x 250 1/2 1 off duplex ball 1/2 p. 150**How driven **steam driven** Main Bilge Line How driven **steam driven** steam drivenBallast Pumps, No. and size **1 off duplex 230 1/2 x 230 1/2 x 250 1/2** Lubricating Oil Pumps, including Spare Pump, No. and size **1**Are two independent means arranged for circulating water through the Oil Cooler **Yes** Suctions, connected to both Main Bilge Pumps and AuxiliaryBilge Pumps;—In Engine and Boiler Room **1 off 150 1/4 1 off 100 1/4 1 off 65 1/4 2 off 65 1/4**In Holds, &c. **FORE HOLD: 2 off 90 1/4 AFTER HOLD: 4 off 75 1/4 TUNNEL 2 off 65 1/4 FP 1 off 65 1/4 NO 1 DB 3 off 65 1/4 NO 2 DB 4 off 65 1/4 NO 3**

DB 4 off 65 1/4 NO 4 DB 4 off 65 1/4 NO 5 DB 4 off 65 1/4 NO 6 DB 1 off 75 1/4 AFT PEAK: 1 off 65 1/4

Main Water Circulating Pump Direct Bilge Suctions, No. and size **1 off 150 1/4** Independent Power Pump Direct Suctions to the Engine Room Bilges,No. and size **1 off 100 1/4 1 off 65 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 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 **Valves except boiler blow off cock**Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates **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 **Yes** 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 **craning at main deck**MAIN BOILERS, &c.—(Letter for record **S**) Total Heating Surface of Boilers **321.2 M<sup>2</sup> 3457 f<sup>2</sup>**Is Forced Draft fitted **Yes** No. and Description of Boilers **2 off single ended return multibore** Working Pressure **15.5 kg/cm<sup>2</sup> 220 lbs/10"**IS A REPORT ON MAIN BOILERS NOW FORWARDED? **Yes**IS A DONKEY BOILER FITTED? **No** If so, is a report now forwarded? **Yes**PLANS. Are approved plans forwarded herewith for Shafting **Yes** Main Boilers **Yes** Auxiliary Boilers **Yes** Donkey Boilers **Yes**Superheaters **Yes** General Pumping Arrangements **Yes** Oil fuel Burning Piping Arrangements **Yes**SPARE GEAR. State the articles supplied:— **2 connecting rod ends both and nuts, 2 connecting rod bottom end both and nuts, 2 main bearing both, 1 set of coupling both. For feed-bilge-and ballast pumps: 1 set of valves and 1 set of****pusher rings, 1 spring for safety valves - 4 HP - and 3 LP pusher rings - 2 rollers - both - 4 valve spindle****4 spindle for springs, 6 valve springs - 2 HP - and 2 LP springs, 1 spring for HP safety valve, 1 ditto for LP****safety valve, 12 plunking screws, 14 studs and nuts for cylinder covers 14 do for valve covers, 1 pair of****crank pin brasses, 2 pair of crosshead brasses, 1 set of brasses for bilge pump links, 24 pads for****thrust block, 36 condenser tubes. For the air pump: 1 bucket rod, 1 set of valves. For the circulating****pump: 1 pusher rod, 1 slide valve spindle, 1 pair of crank pin brasses, 1 pair of crosshead brasses****propeller shaft complete. For exhaust turbine transmission: 1 spring for flexible chain wheel, 4 do for****briction clutch, 12 plain boiler tubes, 3 stay tubes, 1 set of fire bars, 1 spring for safety valve. A quantity****of assorted both and nuts. Iron of various sizes.**

The foregoing is a correct description,

P. ACTIESELSKABET

HELSINGØRS JERNSKIBS- OG MASKINBYGGERI

Manufacturer.

Valdars Jensen A. Thomsen



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Lloyd's Register  
Foundation

005187-005193-0395



1935: 10/1-15/1-17/1-23/1-24/1-28/1-14/2-22/2-7/3-22/3-29/3-1/4-8/4-15/4-29/4-15/5  
During progress of work in shops - - - 16/5-20/5-22/5-25/5-28/5-19/6-2/7  
Dates of Survey while building During erection on board vessel - - - 1935: 2/7-3/7-16/7-19/7-26/7-14/8-17/8-28/8-6/9-10/9-11/9  
Total No. of visits 34

Dates of Examination of principal parts—Cylinders 8/29/4-14/5-22/5-25/5 Slides ✓ Covers 8/4-29/4-16/5-22/5-25/5  
Pistons 29/4-16/5-25/5 Piston Rods 24/1-28/1-16/5-25/5 Connecting rods 15/1-17/1-23/1-16/5-25/5  
Crank shaft 15/1-17/1-14/2-22/2-7/3-22/3-29/3-1/4 Thrust shaft 10/1-17/1-1/4-16/5 Intermediate shafts 15/5-16/5-26/7  
Tube shaft ✓ Screw shaft 15/5-16/5-22/5-18/6 Propeller 6/9  
Stern tube 2/7-3/7-26/7 Engine and boiler seatings 2/7-3/7-19/7 Engines holding down bolts 14/8-17/8  
Completion of fitting sea connections 2/7-3/7  
Completion of pumping arrangements 2/7-3/7-16/7-19/7-26/7 Boilers fixed 17/8-28/8 Engines tried under steam 10/9-11/9  
Main boiler safety valves adjusted 10/9 Thickness of adjusting washers Port boiler AFT 15 3/4 No. 2475 Star boiler A 18 3/4 No. 2475  
Crank shaft material Siemens H. Steel Identification Mark 4-22-7-35 Thrust shaft material Siemens H. Steel Identification Mark 4-16-5-25  
Intermediate shafts, material Siemens H. Steel Identification Marks 4-26-7-35 Tube shaft, material Cold drawn Identification Mark 22/5-26/7  
Screw shaft, material Siemens H. Steel Identification Mark 4-26-7-35 Steam Pipes, material Siemens H. Steel Test pressure 47 kg/cm<sup>2</sup> Date of Test 14/8-28/8  
Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F. ✓  
Have the requirements of the Rules for the use of oil as fuel been complied with ✓  
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo No If so, have the requirements of the Rules been complied with ✓  
Is this machinery duplicate of a previous case No If so, state name of vessel in "Green Book" York No 50 by the York

General Remarks (State quality of workmanship, opinions as to class, &c.) The main engine with the thrust shaft and the thrust block, and the transmission from the exhaust steam turbine to the main shafting has been built by Messrs H. Helsingørskværk of Helsingør, Denmark, under Special Survey and in accordance with the requirements of the Rules, the approved plans and the Secretary's letter E dated 22/1-21/2 and 11/4-1935.

The exhaust steam turbine with gear has been built by Messrs T. Møller, Copenhagen - Please see accompanying special Report.  
The rest of the machinery has been constructed and the installation on board has been carried out by Messrs T. Halborg Møller of Skibbyggeri, Aalborg, under Special Survey in accordance with the requirements of the Rules, the approved plans and the Secretary's letter E dated 7/5 and 30/7-1935.

The material used has been tested as required by the Rules either by us or as per certificate produced and the workmanship is good.  
On the trial trip the whole of the machinery was tested under full power working conditions and found to work satisfactorily.

Recommend the vessel's machinery to have notation of LMC-9.35 e.L. 25.3-220 hp.  
The special notation: "L.P. turbine with reduction gearing and chain drive" and "strengthened for navigation in ice" to be made in the Register Book.

The amount of Entry Fee ... £ 89.60 : When applied for, 25.9.35  
Special ... £ 1349.60 :  
Donkey Boiler Fee ... £ 60.00 :  
Travelling Expenses (if any) ... £ 366.00 :  
When received, Kr. 1218.36 pd 28.8.35  
Kr. 646.24 pd 19.12.35

Committee's Minute  
Assigned  
+ LMC 9.35  
J.D. C.L.  
FRI. 4 OCT 1935  
FRI. 25 OCT 1935  
WED. 29 JAN 1936  
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