

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office SEP 7 1937

Date of writing Report 23rd Aug. 1937 When handed in at Local Office 19 Port of Oslo
 No. in Survey held at Fredrikstad Date, First Survey 9th February 1937 Last Survey 21st August 1937
 Reg. Book. on the steel screw steamer "FRANS-GORTON" (Number of Visits 27) Gross Tons 1824
 Built at Fredrikstad By whom built Fredrikstad Mek. Verktsted Yard No. 283 Net Tons 932 When built 1937
 Engines made at Fredrikstad By whom made Fredrikstad Mek. Verktsted Engine No. 1088 When made 1937
 Boilers made at Fredrikstad By whom made Fredrikstad Mek. Verktsted Boiler No. 1337-38 When made 1937
 Registered Horse Power _____ Owners Kederwachtebolaget Lyfse Port belonging to Nelsvingborg
 Nom. Horse Power as per Rule 277 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted yes
 Trade for which Vessel is intended general

ENGINES, &c. — Description of Engines Four crank comp. inverted, vertical Revs. per minute 100
 Dia. of Cylinder 2 x 390 ^{15 3/8} 2 x 960 mm ^{37 13/16} Length of Stroke 875 mm ^{34 1/2} No. of Cylinders 4 No. of Cranks 4
 Crank shaft, dia. of journals as per Rule 289.7 Crank pin dia. 297 Crank webs Mid. length breadth 566 Thickness parallel to axis 185
 as fitted 294 Mid. length thickness 185 shrunk Thickness around eye-hole 135
 Intermediate Shafts, diameter as per Rule 275.9 Thrust shaft, diameter at collars as per Rule 289.7
 as fitted 278 as fitted 294

Tube Shafts, diameter as per Rule _____ as fitted _____ Screw Shaft, diameter as per Rule 317.4 Is the tube shaft fitted with a continuous liner yes
 as fitted _____ as fitted 320 as fitted _____ Is the screw shaft fitted with a continuous liner _____
 Bronze Liners, thickness in way of bushes as per Rule 17.2 mm Thickness between bushes as per Rule 12.9
 as fitted 18 as fitted 14 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
 If so, state type _____ Length of Bearing in Stern Bush next to and supporting propeller 1570 mm

Propeller, dia. 3860 Pitch 4300 No. of Blades 4 Material Mang. bronze whether Moveable Total Developed Surface 6.15 m²
 Feed Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work
 Bilge Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

Feed Pumps { No. and size Two, 240 x 175 x 450 mm Pumps connected to the { No. and size Two, 150 x 150 x 150, & 190 x 200 x 175 mm.
 How driven steam driven, vert. duplex Main Bilge Line { How driven steam driven, duplex
 Ballast Pumps, No. and size one 190 x 200 x 175 Lubricating Oil Pumps, including Spare Pump, No. and size _____

Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps; — In Engine and Boiler Room Port: Two 65 mm S.B. Two 65 mm + two from settling tank gutterways.
 In Pump Room _____ In Holds, &c. Fore hold: one 50 mm P.S. one 90 mm P.S.
After hold: one 75 mm P.S. one 75 mm P.S. one 75 mm from tunnel well.

Main Water Circulating Pump Direct Bilge Suctions, No. and size one 170 mm Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two 95 mm
 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
 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 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 _____ Have they been tested as per Rule
 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 forehd. dkt.

MAIN BOILERS, &c. — (Letter for record (S) E10/11/36) Total Heating Surface of Boilers 382.6 m² 4120 sq. ft.
 Is Forced Draft fitted yes No. and Description of Boilers Two, cylindrical multitubular Working Pressure 15.5 kg/cm²
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes 258
 IS A DONKEY BOILER FITTED? no If so, is a report now forwarded?

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

PLANS. Are approved plans forwarded herewith for Shafting 29/10/36 Main Boilers 10/11/36 Auxiliary Boilers Donkey Boilers
 (If not state date of approval)
 Superheaters 12/12/36 General Pumping Arrangements 5/1/37 Oil fuel Burning Piping Arrangements 24/12/36
 E.R. piping — " — 24/12/36

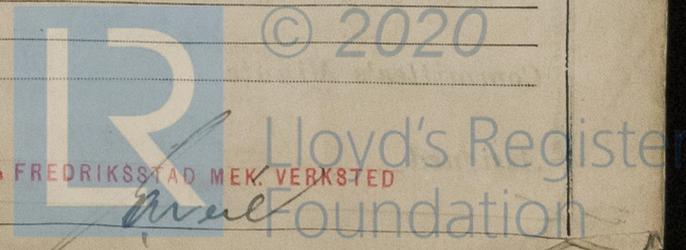
SPARE GEAR.
 Has the spare gear required by the Rules been supplied yes
 State the principal additional spare gear supplied tail shaft — 6 condenser tubes with packings.
3 piston rings for L.P. piston. Packing rings for feed and air pumps. Piston rod bottom end bearing for electric light engine. Piston rod and bottom end brass for air pump engine.
Springs for H.P. & L.P. safety valves.

The foregoing is a correct description,

Manufacturer.

pr. % FREDRIKSTAD MEK. VERKSTED

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Dates of Survey while building

February 9th & 24th; March 9th & 20th; April 9th, 17th, & 26th; May 7th, 11th, 15th, 21st.
 During progress of work in shops -- 28th; June 2nd, 16th, 19th & 29/6 July 3rd, 1st
 During erection on board vessel -- July 26th, 27th & 30th; August 3rd, 7th, 17th, 18th, 20th & 21st.
 Total No. of visits 27

Dates of Examination of principal parts—Cylinders 20/3, 9/4, 17/4 & 26/4 Slides 20/3, 17/4 & 26/4 Covers 26/3, 17/4, 26/4
 Pistons 20/3, 9/4, 26/4, 28/5 Piston Rods 9/4, 26/4 & 28/5 Connecting rods 9/4, 26/4, 28/5, 16/6
 Crank shaft 9/2, 24/2, 17/4, 26/4 Thrust shaft 16/6 Intermediate shafts 16/6
 Tube shaft ✓ Screw shafts 16/6, also spare Propeller 29/6, 3/7
 Stern tube 29/6, 1/7 Engine and boiler seatings 16/6 Engines holding down bolts 8/7, 27/7
 Completion of fitting sea connections 1/7 Boilers fixed 7/8 Engines tried under steam 18/8 & 21/8
 Completion of pumping arrangements 17/8 Thickness of adjusting washers none
 Main boiler safety valves adjusted 20/8 Identification Mark 253.1-2-3-4 Thrust shaft material S.M. steel Identification Mark 2642 16.6.37 P.E.
 Crank shaft material S.M. steel Identification Mark 26.4.37 P.E. Tube shaft, material ✓ Identification Mark 26.27-28-29
 Intermediate shafts, material S.M. steel Identification Mark 26.4.37 P.E. Test pressure 46.3 39 kg/cm Date of Test 7/8/37
 Screw shaft, material S.M. steel Identification Mark 26.4.37 P.E. Steam Pipes, material S.M. steel ✓
 Is an installation fitted for burning oil fuel Yes ✓ Is the flash point of the oil to be used over 150°F. Yes ✓
 Have the requirements of the Rules for the use of oil as fuel been complied with Yes ✓
 If so, have the requirements of the Rules been complied with ✓
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo ✓
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with Yes ✓
 Is this machinery duplicate of a previous case Yes If so, state name of vessel S/S "HERMA GORTON", yard No 281

General Remarks (State quality of workmanship, opinions as to class, &c.)
 This machinery has been constructed in accordance with the approved plans and in conformity with the Secretary's letter concerning the vessel. All materials, where required by the Rules have been tested by the Society's Surveyors. The main engine cylinders were tested by hydraulic pressure. All steam piping, incl. superheater piping with headers, feed pipes and oil fuel piping have been tested as per Rules and found in order. The pumping arrangements have been constructed and fitted as approved and amended. The workmanship throughout is good. The heating coils for oil fuel were tested after assembly in place, and the settling tanks were tested after completion, and all found satisfactory.
 The machinery was examined under working condition during dock trials and during a 12 hours trial trip.
 Forging and casting reports are enclosed herewith.

It is recommended that this vessel's machinery be classed in the Society's Register Book, with notation

The amount of Entry Fee ... £r. 79.50
 Special ... £r. 1324.35
 Donkey Boiler Fee ... £r. :
 Travelling Expenses (if any) ... £r. :
 When applied for, 4/9/37
 When received, 1.10.37
 Committee's Minute
 Assigned + Linc 8.37 Supt F.D. Ch
 Int. for oil fuel 8.37 S.D. about 100

Perkin Reid
 Engineer Surveyor to Lloyd's Register of Shipping.

FRI 24 SEP 1937



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