

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Date of writing Report 1st Sept. 1949 When handed in at Local Office 15 Oct. 1949 Port of Oslo  
 No. in Survey held at Tvedrikstad Date, First Survey 9/9-48 Last Survey 2/9 1949  
 Reg. Book 40024 on the steel single screw steamer "Solviken" (Number of Visits 27)  
 Built at Tvedrikstad By whom built As Tvedrikstad Mek. Verksted Yard No. 326 Tons { Gross 3112.64  
 Engines made at Tvedrikstad By whom made As Tvedrikstad Mek. Verksted Engine No. 1167 When built 1949  
 Boilers made at Tvedrikstad By whom made As Tvedrikstad Mek. Verksted Boiler No. 1521-1522 When made 1949  
 Registered Horse Power 372 Owners Wallin & Co, As Port belonging to Bergen  
 Nom. Horse Power as per Rule MN 508 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes  
 Trade for which vessel is intended General Cargo Vessel intended for China Coast

ENGINES, &c. Description of Engines Four crank double compound. Revs. per minute ab. 100  
 Dia. of Cylinders 2x450mm, 2x1080mm. Length of Stroke 985mm No. of Cylinders 4 No. of Cranks 4  
 Crank shaft, dia. of journals as per Rule 306.67 Crank pin dia. 336mm Mid. length breadth 540mm Thickness parallel to axis 208mm  
as fitted 334mm Crank webs as per Rule 292.07mm Mid. length thickness 208mm Thickness around eye-hole 154mm  
 Intermediate Shafts, diameter as fitted 295mm Thrust shaft, diameter at collars as per Rule 306.67mm  
as fitted 334mm Tube Shafts, diameter as per Rule 322.77mm as fitted 334mm Is the tube shaft fitted with a continuous liner yes  
 Bronze Liners, thickness in way of bushes as per Rule 17.4mm 346 @ T.O.C. as per Rule 13.1mm Is the after end of the liner made watertight in the  
as fitted 18.5mm Thickness between bushes as fitted 15mm 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 yes  
 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 tube yes  
 at yes If so, state type yes Length of Bearing in Stern Bush next to and supporting propeller 1675mm

Propeller, dia. 14.5' Pitch 15.37' No. of Blades 4 RH. Material Maing. Bronze Is the tube shaft fitted with a continuous liner yes  
 Feed Pumps worked from the Main Engines, No. 4 Diameter 1675mm Stroke 1675mm Can one be overhauled while the other is at work yes  
 Bilge Pumps worked from the Main Engines, No. 4 Diameter 1675mm Stroke 1675mm Can one be overhauled while the other is at work yes

Feed Pumps No. and size two simplex (240x175x530)mm Pumps connected to the Main Bilge Line yes No. and size one 9x9x10", and two 6x6x6", all duplex pumps.  
 How driven Steam How driven Steam Ballast Pumps, No. and size one duplex 9x9x10" Lubricating Oil Pumps, including Spare Pump, No. and size yes

Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected both to Main Bilge Pumps and Auxiliary  
 Bilge Pumps: In Engine and Boiler Room three 2 1/2" 63mm In Pump Room yes In Holds, &c. Fore hold two 89x89x63mm, cofferdam two 57mm,  
chainlocker one 57mm, aft hold two 89x89x63mm, tunnel Well one 63mm.

Main Water Circulating Pump Direct Bilge Suctions, No. and size one 220mm Independent Power Pump Direct Suctions to the Engine and/or Boiler Room Bilges,  
 No. and size one 108 & one 95mm 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 both

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 none How are they protected yes Have they been tested as per Rule yes  
 What pipes pass through the deep tanks 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 yes

MAIN BOILERS, &c. (Letter for record yes) Total Heating Surface of Boilers 578.8m<sup>2</sup> + 218.2m<sup>2</sup> = 793.3m<sup>2</sup>  
 Which Boilers are fitted with Forced Draft both Which Boilers are fitted with Superheaters both Working Pressure 15.5 kg/cm<sup>2</sup>

No. and Description of Boilers two cylindrical Scotch type IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes  
 IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? yes

Can the donkey boiler be used for other than domestic purposes yes PLANS. Are approved plans forwarded herewith for Shafting 30/11/46, 23/1/47 Main Boilers 21/1/47 Auxiliary Boilers yes Donkey Boilers yes  
 (If not state date of approval)

Superheaters 18/3/47 General Pumping Arrangements 24/6/48 Oil fuel Burning Piping Arrangements 27/7/48, 23/2/49

SPARE GEAR.

Has the spare gear required by the Rules been supplied yes

State the principal additional spare gear supplied 1 screw shaft with bronze liner

For main engine: 1 set rings for HP piston valve  
 2 " " HP piston  
 3 complete rings for LP piston with extra springs.  
 1 HP piston rod  
 20 condenser tubes  
 18 bolts & nuts for cyl. covers etc.  
 20 m. filter cloth for feed filters  
 6 glass tubes for lubricator

For main circulating Pump: 1 set piston rings  
 1 " rings for metallic packing  
 1 piston valve  
 1 crank bearing

For feed pump: 1 set rings for steam piston  
 1 " " " water

For forced draught fan engine: 1 set piston rings, 1 piston valve  
 For dynamo engine: 1 set piston rings  
 1 piston valve  
 1 complete crank-bearing  
 2 governor springs  
 1 set rings for metallic packing  
 For air pump: 1 set valves.

The foregoing is a correct description of the spare gear supplied As Tvedrikstad Mek. Verksted

Manufacturer.

Lloyd's Register

Foundation

003245-003251-0021



Dates of Survey while building	During progress of work in shops - -	1948: 9/9, 3/12, 30/12 - 1949: 17/1, 4/2, 25/2, 1/3, 4/3, 25/3, 2/4, 11/4, 27/4, 10/5 21/5, 28/5, 4/6, 10/6, 14/6, 18/6 19/7, 27/7, 30/7, 12/8, 17/8, 24/8, 29/8, 2/9
	During erection on board vessel - - -	
Total No. of visits		27

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 letters concerning this vessel. All materials where required by the Rules have been tested by the Society's Surveyors.

The main engine cylinders and covers, the Condensers, feed heaters, all steam piping, superheater elements and headers, feed pipes and oil fuel piping have been tested as per Rules and found satisfactory. The pumping arrangement have been constructed and fitted as per Rules and as approved. The workmanship throughout is good. - The heating coils for oil fuel were tested after assembly in place, the settling tanks were tested on completion and found satisfactory.

Oil fuel installation, pumps in engine room and boiler room tested under working conditions.

The machinery was examined under full working conditions during wharf trials and during 7 hours trial trip.

The forgings used, apart from the crankshaft, were all made and tested by us at the builder's shop.

It is recommended that this vessel's machinery be classed in the Society's Register Book, with notation **✠ LMC 9.49**. Boiler pressure 220 lbs. Screws shaft fitted with continuous liner. Fitted for oil fuel 9.49. F.P. above 150° F.

The amount of Entry Fee	... £	:	:	} When applied for,	
Special	... ..	Rs. 353.5. 53.	:		17/9/1949
Donkey Boiler Fee	... ..	£	:		} When received,
Travelling Expenses (if any)	Rs. 300.00	:	:	26/9/1949	

*Engineer Surveyor to Lloyd's Register of Shipping.*

Date \_\_\_\_\_

Committee's  
Minute.....

FITTED FOR OIL FUEL 11.49 FLASH POINT ABOVE 150°F

F.D. C.L. 2 SB 2206 Spt

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