

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 29/11 1946 When handed in at Local Office Stockholm Port of Stockholm

No. in Survey held at Stockholm Date, First Survey 28.1 Last Survey 14.11 19 46
 Reg. Book 69522 on the Single Screw Steamer "BERKEL" (Number of Visits 48) Tons {Gross 1571.7
 Net 739.7

Built at Stockholm By whom built A/B Finnboda Varf Yard No. 332 When built 1946

Engines made at Elsinore By whom made A/S Helsingörs Jernsk & Maskinb. Engine No. 410 When made 1945

Boilers made at Gothenburg By whom made A/B Lindholmens Varv Boiler No. 2670 & 2671 When made 1943

Indic. Horse Power Recipr. 1325 Owners Stockholms Rederi A/B Svea Port belonging to Stockholm
 Register Turb. 400 (affd 425)

Nom. Horse Power as per Rule 243 MN 350 333 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Open sea service.

ENGINES, &c.—Description of Engines Vertical engines with 2 HP and 1 LP cylinders combined with exhaust steam turbine. Revs. per minute 115

Dia. of Cylinders HP: 400; LP 1000 Length of Stroke 950 No. of Cylinders 2 HP & 1 LP=3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule Crank pin dia. 37 3/8 Mid. length breadth as per Rule Thickness parallel to axis as fitted

Intermediate Shafts, diameter as per Rule approved 286 m/m Thrust shaft, diameter at collars as per Rule 275

Tube Shafts, diameter as per Rule Screw Shaft, diameter approved 310-286 310-286 m/m Is the after end of the liner made watertight in the propeller boss No

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule Is the after end of the liner made watertight in the propeller boss -

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 -

at Yes If so, state type Cedervall No. 14, adjustable Length of Bearing in Stern Bush next to and supporting propeller 1426 m/m

Propeller, dia 3900 m/m Pitch 3540 m/m No. of Blades 4 Material Stainless steel whether Moveable No Total Developed Surface 4.65 m²

Feed Pumps worked from the Main Engines, No. None Diameter - Stroke - Can one be overhauled while the other is at work -

Bilge Pumps worked from the Main Engines, No. Two Diameter 110 m/m Stroke 250 m/m Can one be overhauled while the other is at work -

Feed Pumps { No. and size 2; 2 cyls. 190x115x300 Pumps connected to the Main Bilge Line { No. and size 1 ballast-75 tons; 1 bilge-33 tons; 2 bilge-20 tons each
 How driven Steam driven How driven Steam driven Steam driven Main engine.

Ballast Pumps, No. and size 1; 75 tons/hour Lubricating Oil Pumps, including Spare Pump, No. and size Cogwheel pump

Are two independent means arranged for circulating water through the Oil Cooler None Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps:—In Engine and Boiler Room 3-3", 1-2", 1-2 1/2" fr. tunnel well, 1-2" fr. tunnel.

In Pump Room - In Holds, &c. 2-3" from forw. hold; 4-3" from aft hold.

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1; 140 m/m Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-3 1/2", 1-2 1/2" 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 Yes

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 -

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 Upper platform

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 326 m² 3509 ϕ + 2044 = 5553

Which Boilers are fitted with Forced Draft both Which Boilers are fitted with Superheaters -

No. and Description of Boilers 2 multitubular Working Pressure 15.5 kg/cm² 220 lbs

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? -

Can the donkey boiler be used for domestic purposes only -

PLANS. Are approved plans forwarded herewith for Shafting No. 31.3.43 Main Boilers - Auxiliary Boilers - Donkey Boilers -

(If not state date of approval)

Superheaters No. 14.11.45 General Pumping Arrangements No. 3.5.45 Oil fuel Burning Piping Arrangements No. 19.4.45

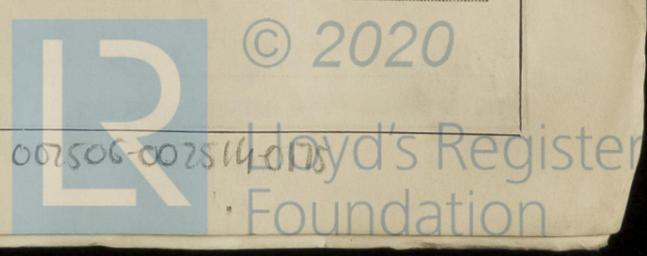
SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied -

The foregoing is a correct description.
AKTIEBOLAGET FINNBODA VARF
Shaurul

Manufacturer.



28/1, 7/2, 10/7 and 27/11-1944.
 During progress of work in shops - - { 9/10 and 5 & 9/11-1945
 and
 During erection on board vessel - - - { 2, 7, 18 & 23/1, 6, 12, 25, 27 & 28/2, 1, 9, 12 & 30/3, 3, 8 & 24/4, 18/5, 19/6, 7, 22, 27, 28 & 31/8, 9, 13, 16, 25, 28 & 30/9, 7, 8, 9, 10, 18, 28 & 30/10, 9, 11, 12 & 14/11-46
 Total No. of visits 46

Dates of Examination of principal parts—Cylinders 5.11.45 Slides - Covers 5.11.45
 Pistons 5.11.45 Piston Rods 5.11.45 Connecting rods 5.11.45
 Crank shaft 5.11.45 Thrust shaft 5.11.45 Intermediate shafts 12.3.46
 Tube shaft 18.1.46 Screw shaft 12.3.46 Propeller 12.3.46
 Stern tube 18.1.46 Engine and boiler seatings 7.1.46 Engines holding down bolts 31.8.46
 Completion of fitting sea connections 9.10.46
 Completion of pumping arrangements 12.11.46 Boilers fixed 27.8.46 Engines tried under steam 14.11.46
 Main boiler safety valves adjusted 14.11.46 Thickness of adjusting washers -
 Crank shaft material S.M. Steel Identification Mark No. 6147 LJ 7.11.44 Thrust shaft material S.M. Steel Identification Mark No. 6148 LJ 7.11.44
 Intermediate shafts, material S.M. Steel Identification Marks 1796, 97, 98, 99 spare screw No. 1800 SJ 20.10.44
 Screw shaft, material S.M. Steel Identification Marks No. 1801 SJ 20.10.44
 Steam Pipes, material Steel Test pressure 45 kg/cm² Date of Test 9.9.46
 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 ✓
 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 -
 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. "BIFROST" ✓

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

The machinery of this vessel has been opened up, examined and installed under my inspection and to my satisfaction. Brinell check tests and chemical analysis tests have been carried out on crankshaft.

Main- and auxiliary machinery have been tested under working conditions on a trial trip and found to work satisfactorily.

The steam reciprocating engine generator sets as per Copy Surveyors certificate attached.

Please see also Cop. report No. 11700.

It is recommended that the machinery of this vessel be classed in the Register Book, with notation of *LMC 11,46, also notation of "LP turbine with SR gearing and chain drive", and "Fitted for oil fuel 11,46 F.P. above 150° F. Working pressure of boiler 220 lbs. per sq. in."

Certificates in respect of various machinery details are attached hereto.

The amount of Entry Fee ... Lk. 76: - :
 Special ... 1/3 ... Lk. 385: - :
 Donkey Boiler Fee ... £ :
 Travelling Expenses (if any) £ :
 When applied for, 29/11 1946
 When received, 19

Revelin
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute ... FRI. 10 JAN 1947

Assigned ... +LMC 11,46 Subject
 FITTED FOR OIL FUEL 11,46 FLASH POINT ABOVE 150°F. F.D. O.G.



Certificate to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)