

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office
 Date of writing Report 29/10/46 When handed in at Local Office 1946 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" 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 Göteborg 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
 Turb. 400 (app. 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. 373/8 Crank webs Mid. length breadth Thickness parallel to axis as fitted
 Intermediate Shafts, diameter as per Rule Thrust shaft, diameter at collars as fitted
 Tube Shafts, diameter as fitted Screw Shaft, diameter as fitted 310-286 m/m Is the screw shaft fitted with a continuous liner No
 Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as fitted Is the after end of the liner made watertight in the propeller boss as fitted
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner as fitted
 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 as fitted
 If two liners are fitted, is the shaft lapped or protected between the liners as fitted Is an approved Oil Gland or other appliance fitted at the after end of the tube as fitted
 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 ft² + 2044 = 5553 ft²
 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. 31.3.47 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

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
Intermediate shafts, material	S.M. Steel	Identification Marks	1796, 97, 98, 99 SJ 20.10.44	spare screw	S.M. Steel
Screw shaft, material	S.M. Steel	Identification Marks	No. 1801 SJ 20.10.44	Test pressure	45 kg/cm ²
Is an installation fitted for burning oil fuel	Yes	Is the flash point of the oil to be used over 150° F.	Yes	Date of Test	9.9.46
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 Cop. 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	... £ 76. -	When applied for, 29/11 1946
Special ... 1/3 £ 38.5 -	
Donkey Boiler Fee	... £ -	When received, 1946
Travelling Expenses (if any)	... £ -	

Repelin
 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.