

# REPORT ON OIL ENGINE MACHINERY.

No. 1868

Received at London Office 17 MAR 1949

Report 13/3 19 48 When handed in at Local Office 13/3 19 48 Port of HELSINGBORG  
Survey held at Helsingborg Date, First Survey 8/11 1947 Last Survey 11/3 19 48  
Number of Visits 31  
Single Screw vessel Motorvessel "S O M M E N". Tons Gross 3927 Net 2608  
Richmond, Cal. By whom built Kaiser Cargo Inc. Yard No. 68 When built 1945  
Wisconsin By whom made Nordberg Manufact. Co. Ser. No. 216135 Engine No. 3215243 When made 1944  
By whom made - Boiler No. - When made -  
Power 1700 Owners Rederi A/B Sigyn Port belonging to Helsingborg  
Registry Numeral 529-497 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes  
Which vessel is intended General.

Types, &c. - Type of Engines Heavy oil engine 2 or 4 stroke cycle 2 Single or double acting Single  
Pressure in cylinders 750 lbs/sq.in. Diameter of cylinders 21 1/2" Length of stroke 29" No. of cylinders 6 No. of cranks 6  
Rated Pressure 87 lbs/sq.in. Rings, adjacent to the crank, measured from inner edge to inner edge 26.1/4" Is there a bearing between each crank Yes  
Revolutions per minute 180 Flywheel dia 6'-5.3/4" Weight - Means of ignition Compr. Kind of fuel used Diesel oil  
Liner dia. of journals as per Rule - as fitted 14.3/4" Crank pin dia 14.3/4" Crank webs Mid. length breadth 19.11/16" Thickness parallel to axis 6.4/5"  
as fitted 14.3/4" Mid. length thickness 6.4/5" shrunk Thickness around eye-hole 2.1/2"  
Shaft, diameter as per Rule - as fitted - Intermediate Shafts, diameter as per Rule - as fitted 9.3/8" Thrust Shaft, diameter at collars as per Rule - as fitted 10.1/4"  
Main Shaft, diameter as per Rule - as fitted - Is the screw shaft fitted with a continuous liner Yes  
Liners, thickness in way of bushes as per Rule 13/20" Thickness between bushes as per Rule 13/20" Is the after end of the liner made watertight in the stern tube Yes See back of report  
If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner of report  
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-volatile Yes  
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 shaft No  
If so, state type - Length of bearing in Stern Bush next to and supporting propeller 3'-7.5/16"  
Diameter 11'-0" Pitch 6'-7.1/4" No. of blades 3 Material Bronze whether moveable No Total developed surface - sq. feet  
Reversing Engines Compr. air Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of forcing air Thick-ness of cylinder liners 1" Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers fitted with non-conducting material Yes  
If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned from the engine room  
Cooling Water Pumps, No. 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel No  
Pumps worked from the Main Engines, No. - Diameter - Stroke - Can one be overhauled while the other is at work -  
Suctions connected to the Main Bilge Line { No. and size 2 x 67 tons/hour. 1 x 89 tons/hour  
How driven Electric Electric  
Is bilge water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping  
Pumps, No. and size 1 x 67 t/h. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 x 110 t/h.  
Independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both main bilge pumps and auxiliary pumps, No. and size: - In machinery spaces 2 x 3". Tunnel well 1 x 3". In pump room -  
No. 1 H= 2x3". No. 2 H= 2x3". No. 3 H= 2x3". Refr. Hold drain well = 3".  
Direct Power Pump Suctions to the engine room bilges, No. and size 2x3"; 1x8" (main circ. water pump suction).  
Are the bilge suction pipes in holds and tunnel well fitted with strum-boxes Yes Are the bilge suction pipes in the machinery spaces led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Mudboxes on main bilge line.  
Connections fitted direct on the skin of the Ship Yes Are they fitted with valves or cocks Yes Are they fixed high on the ship's side to be seen without lifting the platform plates Yes Are the overboard discharges above or below the deep water line Both  
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 -  
Do pipes pass through the bunkers No bunkers How are they protected -  
Do pipes pass through the deep tanks To fore peak tank Have they been tested as per Rule -  
Do pipes, cocks, valves and pumps in connection with the machinery and bilge spaces accessible at all times Yes  
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 from one compartment to another Yes Is the shaft tunnel watertight - Is it fitted with a watertight door - worked from -  
In the vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork -  
Compressors, No. - No. of stages - diameters - stroke - driven by -  
Air Compressors, No. 2 No. of stages 2 diameters 5" x 3" stroke 5" driven by electr.  
Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 4" x 1 1/2" stroke 3 1/2" driven by -  
Provision is made for first charging the air receivers by the small-aux. air compressors. Current supplied from the battery started emergency generator.  
Large Air Pumps, No. 1 diameter 4'-5.3/4" stroke 1'-7.11/16" driven by main eng.  
Engines crank shafts, diameter as per Rule - as fitted Journal 8 1/2". Cr. pin. 8". Position Port side in Engine Room.  
Have auxiliary engines been constructed under special survey Yes. A.B.S. Is a report sent herewith -

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**AIR RECEIVERS:**—Have they been made under survey Yes. A.B.S. State No. of report or certificate —  
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes  
 Can the internal surfaces of the receivers be examined and cleaned Yes Is a drain fitted at the lowest part of each receiver...  
**Injection Air Receivers, No.** — Cubic capacity of each — Internal diameter — thickness —  
 Seamless, lap welded or riveted longitudinal joint — Material — Range of tensile strength — Working pressure —  
**Starting Air Receivers, No.** 4 Total cubic capacity — Internal diameter 3' thickness 0.75"  
 Seamless, lap welded or riveted longitudinal joint Welded Material — Range of tensile strength — Working pressure 1 fwd  
**IS A DONKEY BOILER FITTED** Yes If so, is a report now forwarded —  
 Is the donkey boiler intended to be used for domestic purposes only See below. (Vapour Clarkson Type D1-230;56B.).  
**PLANS:** Are approved plans forwarded herewith for shafting — Receivers — Separate for —  
 (If not, state date of approval)  
 Donkey boilers — General pumping arrangements — Pumping arrangements in machinery space —  
 Oil fuel buring arrangements —

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied Yes  
 State the principal additional spare gear supplied  
**Main engine:**— 1 cylinder cover, 1 cylinder liner. 1 piston. 1 connecting rod. 2 top  
 2 main bearings. 1 starting valve. 2 safety valves.  
**Scavenging pump:**— 1 piston. 1 piston rod. 1 impeller and shaft for the salt and fresh  
 water pumps; 1 impeller and shaft for the bilge and ballast pumps.  
 The foregoing is a correct description,  
 Manufacturer.

Dates of Survey while building  
 During progress of work in shops - -  
 During erection on board vessel - -  
 Total No. of visits 31  
 16.12.47 & 16.12.47 & 16.12.47 &  
 19.2.48 & 19.2.48 & 19.2.48 &  
 Dates of examination of principal parts—Cylinders 19.2.48 Covers 19.2.48 Pistons 19.2.48 Rods — Connecting rods  
 Crank shaft 19.2.48 Flywheel shaft — Thrust shaft 24.1.48 Intermediate shafts 22.2.48 Tube shaft  
 Screw shaft 6.2.48 Propeller 6.2.48 Stern tube 6.2.48 Engine seatings 29.2.48 Engine holding down bolts  
 Connections of sea connections 3.2.48 Pumping arrangements 10.3.48 Engines tried under working conditions  
 Crank shaft, material — Identification mark — Flywheel shaft, material, — Identification mark  
 Thrust shaft, material — Identification mark — Intermediate shafts, material — Identification marks  
 Tube shaft, material — Identification mark — Screw shaft, material — Identification mark  
 Identification marks on air receivers See separate particulars enclosed.

Is the flash point of the oil to be used over 150°F Yes  
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with Yes  
 Description of fire extinguishing apparatus fitted 4x1½" and 4x2½" water hoses. 7 chemical exting. with 9 li  
 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 No  
 Is this machinery duplicate of a previous case — If so, state name of vessel —

**General Remarks** (State quality of workmanship, opinions as to class, &c. The machinery of this vessel was original  
 under the special supervision of the Surveyors to the American Bureau of Shipping and classed by that Society but has now been surveyed by me for Classification with this Society.  
 The condition and standard of workmanship, as now seen, is considered to be good and satisfactory.

**NOTE:**— The steam generator has been examined (the coils renewed) but, due to fault with electrical equipment on the stack and low water switches, the boiler could not be examined in working condition and the safety valves not be adjusted. (Working pressure 100 lbs.).

The main- and auxiliary engines have been tried under working condition and found to be satisfactory.

The machinery of this vessel is eligible in my opinion to be classed in the Society's class. (See Cont)

The amount of Entry Fee ... £ -- :  
 Special ... £ Kr 960:00 :  
 Donkey Boiler Fee... £ -- :  
 Travelling Expenses (if any) £ -- :  
 When applied for 13/3 19 48  
 When received - 19

*R. O. Fogrum*  
 Engineer Surveyor to Lloyd's Register

Assigned *see 3E Rpt*

M/S "S O M M E N", No.37814 in the Register Book

, when the survey has been completed,  
 Book with the notations of LMC 3,48/and CL 3,48, subject to the propeller shaft  
 being renewed before the end of July, 1948.

Please also see Rpt.9 forwarded herewith.

*R. O. Fogrum*  
 SURVEYOR TO LLOYD'S  
 REGISTER OF SHIPPING

**PARTICULARS OF IDENTIFICATION MARKS ON AIR RECEIVERS.**

ORDINARY AIR RECEIVERS (3 off):-						AIR SURG TANK:-
Maloney Tank Mfg. Tulsa, Oklahoma.						Peerless Fab.Co.,Oakland, Calif.
WLD	PV	No.	Port	Centre	Stbd.	T.P. 550 lbs.
S.T.	.75	Cert.	SL 2205	SL2078	SL2146	H.T. 415
H.T.	.75	A.B.S.	290MDM	290MDM	290MDM	T.S. 55.000 lbs.
T.S.	55000	Date	28.8.44	26.7.44	8.8.44	Max.WP 275 lbs.
T.P.	800 lbs.	U.S.C.G.No.	M-271	M-186		Cert.No. S.F.4813
S.W.P.	400 lbs.					Ser.No.104
S.D.	36" I.D.					Shell 3/8"
H.R.	Ellip 2,1					Head 3/8"
M.T.	C.L.B. Grade B.					Insp. S.J.H. 5.8.44

Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.  
 HELSINGBORG OFFICE, when survey completed.