

# REPORT ON OIL ENGINE MACHINERY

No. 17919.

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Date of writing Report 1st Dec. 1950. When handed in at Local Office 19th Dec. 1950. Port of Gothenburg.

No. in Survey held at Gothenburg Date, First Survey 22nd December, 1949. Last Survey 29th November, 1950.

Reg. Book. 95395 on the ~~FLOR~~ ~~YELSA~~ ~~QNNKAPPA~~ Single Screw vessel "S L I E D R E C H T" Tons Gross 10560 Net 6172

Built at Gothenburg By whom built A-B. Lindholmens Varv Yard No. 1013 When built 1950

Engines made at Kristinehamn By whom made A-B. Karlstads Mek. Verkstad Engine No. 17 When made 1950

Monkey Boilers made at Gothenburg & Oslo By whom made A-B. Lindholmens Varv, Gothenburg 2880-1 Boiler No. 476 When made 1950

Indicated Horse Power 5950 Owners Phs. van Ommeren N.V. Port belonging to Rotterdam

N. Power as per Rule 1263 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Use for which vessel is intended General

**ENGINES, &c.**—Type of Engines Heavy oil engine, solid injection 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders --- Diameter of cylinders --- Length of stroke --- No. of cylinders 2 No. of cranks 2

Mean Indicated Pressure --- Ahead Firing Order in Cylinders --- Span of bearings, adjacent to the crank, measured from inner edge to inner edge --- Is there a bearing between each crank Yes Revolutions per minute 125

Flywheel dia. --- Weight --- Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg. cm.<sup>2</sup>) --- Means of ignition Compr. Kind of fuel used Diesel oil

Crankshaft, ~~Semi built~~ ~~as per Rule~~ dia. of journals as fitted Crank pin dia. --- Crank webs Mid. length breadth --- Thickness parallel to axis --- Mid. length thickness --- shrunk Thickness around eye hole ---

Flywheel Shaft, diameter as per Rule --- Intermediate Shafts, diameter as fitted 380 mm. Thrust Shaft, diameter at collars as fitted 490 mm.

Shaft, diameter as per Rule --- Screw Shaft, diameter as fitted 443 mm. Is the ~~shaft~~ shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 21.2 mm. Thickness between bushes as fitted 21.5 mm. Is the after end of the liner made watertight in the propeller boss --- If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner One length

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 to it --- 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 tube shaft None If so, state type --- Length of bearing in Stern Bush next to and supporting propeller 2300 mm. Metres

Propeller, dia. 5200 mm. Pitch 3865 mm. No. of blades 4 Material Bronze whether moveable No Total developed surface 9.71 sq. Metres

Moment of inertia of propeller (lbs. in<sup>2</sup> or Kg. cm.<sup>2</sup>) --- Kind of damper, if fitted None fitted

Method of reversing Engines Direct with compr. air Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of lubrication Forced Thickness of cylinder liners --- Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled

Lagged with non-conducting material Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine. Led to 2 salt water & 5430 litres per minute, and 1 fresh water & 4160 litres per minute Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

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

Pumps connected to the Main Bilge Line No. and size 1 ballast & 150 tons/hour. 1 independent bilge & 40 tons/hour. Main salt water cooling pump (Marked for emergency use only) How driven Steam Electric motor

Is the cooling 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 arrangements ---

Ballast Pumps, No. and size 1 & 150 tons/hour Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 & 265 M<sup>3</sup>/hour

Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both main bilge pumps and auxiliary Main: 4 x 4" In pump room Fwd: 1 x 2 1/2"

Bilge pumps, No. and size:—In machinery spaces 3 x 2 1/2", 2 x 3", 2 x 2" to cofferdam in eng. room In pump room Fwd: 1 x 2 1/2" Dry hold: 2 x 2 1/2", 1 x 5" to forward cofferdam, 1 x 4" from cofferdam forward of engine room to a separate holds, &c. 50-ton piston bilge pump 1 x 6" to ballast pump, 1 x 4 1/2" to independent bilge pump

Independent Power Pump Direct Suctions to the engine room bilges, No. and size and to main salt water pump 1 x 6" to ballast pump, 1 x 4 1/2" to independent bilge pump

Are all the bilge suction pipes in holds ~~not connected~~ fitted with strum-boxes Yes Are the bilge suction 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 Yes

Are all Sea Connections fitted direct on the skin of the Ship On welded recesses Are they fitted with valves or cocks Valves Are they fixed efficiently 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 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

That pipes pass through the bunkers Heating coils How are they protected ---

That pipes pass through the deep tanks forward Heating coils Have they been tested as per Rule 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 Mch. aft Is it fitted with a watertight door --- worked from ---

Is a wood vessel what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ---

Main Air Compressors, No. None No. of stages --- diameters --- stroke --- driven by ---

Auxiliary Air Compressors, No. 2 ~~Not connected~~ 4 M<sup>3</sup> at 30 ~~Not connected~~ kg/cm<sup>2</sup> stroke --- driven by El. motors

Small Auxiliary Air Compressors, No. 1 ~~Not connected~~ 113 litres ~~Not connected~~ at 25 kg/cm<sup>2</sup> stroke --- driven by El. motor and also manually

What provision is made for first charging the air receivers The small starting up compressor

Scavenging Air Pumps, No. 1 D.A. for each cylinder diameter --- stroke --- driven by ---

Auxiliary Engines crank shafts, diameter as per Rule --- No. 3 Position 1 on port, 2 on stbd. side of E.R. floor

Have the auxiliary engines been constructed under special survey Yes Is a report sent herewith Yes (Photostat copy of Stockholm report No. 7814 also attached)

End  
17/1/51

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AIR RECEIVERS:—Have they been made under survey..... Yes ✓ 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..... Yes ✓  
Injection Air Receivers, No..... None ✓ Cubic capacity of each..... Internal diameter..... thickness.....  
Seamless, welded or riveted longitudinal joint..... Material..... Range of tensile strength..... Working pressure.....  
Starting Air Receivers, No..... 2 ✓ Total cubic capacity..... 24 M<sup>3</sup> Internal diameter..... 1833 mm. thickness..... 33.5 mm.  
Seamless, welded or riveted longitudinal joint..... El. welded Material S.M. Steel Range of tensile strength 44-50 kg/mm<sup>2</sup> Working pressure.....  
by Rules..... 30.3 Actual..... 30.3

IS A DONKEY BOILER FITTED..... Yes ✓ If so, is a report now forwarded..... Yes ✓  
Is the donkey boiler intended to be used for domestic purposes only..... Also for heating coils and pumps.....

PLANS. Are approved plans forwarded herewith for shafting..... 14.4.1949 Receivers..... 8.3.1949 Separate fuel tanks..... 5.4  
(If not, state date of approval)  
Donkey boilers..... 8.12.1948 General pumping arrangements..... 25.1.1950 Pumping arrangements in machinery space..... 25.1.1950  
Oil fuel burning arrangements..... 2.1.1950  
Have Torsional Vibration characteristics been approved..... Yes ✓ Date of approval.....

### SPARE GEAR.

Has the spare gear required by the Rules been supplied..... Yes ✓  
State the principal additional spare gear supplied..... 1 piston top, 45 piston rings, 6 scrape rings, 1 complete main bearing, 3 fuel  
needle valves and a number of parts for all valves, 10 fuel oil pressure pipes, springs, etc., and 1 propeller shaft  
with nut.

The foregoing is a correct description,

AKTIEBOLAGET LINDHOLMENS VARV

Manufacturer.

Dates of Survey while building  
During progress of work in shops.....  
During erection on board vessel..... 22nd December, 1949 - 29th November, 1950.  
Total No. of visits..... 75

Dates of examination of principal parts—Cylinders..... Covers..... Pistons..... Rods..... Connecting rods.....  
Crank shaft..... Flywheel shaft..... Thrust shaft..... Intermediate shafts..... 1.8.1950 Tube shaft.....  
Screw shaft..... 1.8.1950 Propeller..... 13.11.1950 Stern tube..... 14.4.1950 Engine seatings..... 27.7.1950 Engine holding down bolts..... 3.10.1950  
Completion of fitting sea connections..... 28.8.1950 Completion of pumping arrangements..... 25.11.1950 Engines tried under working conditions..... 29.11.1950  
Crank shaft, material..... Identification mark..... Flywheel shaft, material..... Identification mark.....  
Thrust shaft, material..... Identification mark..... Intermediate shafts, material S.M. Steel Identification marks.....  
Tube shaft, material..... Identification mark..... Screw shaft, material S.M. Steel Identification mark.....  
Identification marks on air receivers.....  
Nos. 2269 - 2270  
LLOYD'S TEST 48.5 KG.  
WP 30 KG.  
SJ 27.7.50

Welded receivers, state Makers' Name..... A-B. Lindholms Varv, Gothenburg.  
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..... 8-6-litres MINIMAX NV foam.  
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo..... Oil tanker ✓ 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..... Not desired  
Is this machinery duplicate of a previous case..... No If so, state name of vessel.....

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

The main- and auxiliary engines of this vessel have been built under special survey (See Got.rpt.17770  
the main eng. and Skm.rpt.No.7814 on the aux.eng.). Test sheets in respect of the straight shafting and air receiver  
are attached. The machinery has been securely fitted in the vessel under my inspection and to my satisfaction and has  
been tested under full power conditions on a trial trip and found in order. A "Spanner" exhaust gas economiser, made  
by A/S Elektrisk Sveising, Oslo, as per photostat copy of Oslo rpt.No.6575 attached has been fitted on board and its  
safety valves have been adjusted to 170 lbs. per square inch. This economiser works as heater in conjunction with the  
oil fired boilers.

The machinery of this vessel is eligible, in my opinion, to be classed +LMC 11,50. Tail Shaft fitted with  
Continuous Liner, and Working Pressure of the 2 Donkey Boilers 170 lbs. per square inch.

Butterworth apparatus  
The amount of XXXX Fee ... Kr. 120:00  
Special ... Kr. 1810:00 When applied for 19th Decem 50.  
Air Receiver  
XXXXXX Fee... Kr. 300:00 When received ... 19 -  
Travelling Expenses (if any) Kr. : 14:00

Committee's Minute

Assigned +LMC 11,50 Oil Eng.

C.H. 2 DB 170 lb.

Gothenburg Office.

Certificate (if required) to be sent to

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

FRI. 26 JAN 1951

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