

# REPORT ON OIL ENGINE MACHINERY.

No. 18730.

17 JAN 1952

Received at London Office

Writing Report 7th Jan. 1951 When handed in at Local Office 14th Jan 1952 Port of Gothenburg

Survey held at Gothenburg Date, First Survey 16th October 1950 Last Survey 21st December 1951 Number of Visits 103

17919 48 on the ~~Rock~~ ~~Triple~~ ~~Quadruple~~ Single Screw vessel Motor Tanker "S. H. E. T. L. A. N. D." Tons Gross 10560 Net 6170

Gothenburg By whom built AB Lindholmens Varv Yard No. 1017 When built 1951

made at Kristinehamn By whom made AB Karlstads Mek. Verkstad Engine No. 20 When made 1951

Boilers made at Gothenburg By whom made AB Lindholmens Varv Boiler No. 2886 2887 When made 1951

orse Power Maximum 6300 Owners A/S Det Dansk-Franske Dampskibsselskab Port belonging to Copenhagen Service 5950

per Rule 1263 Is Refrigerating Machinery fitted for cargo purposes. --- Is Electric Light fitted. Yes

or which vessel is intended General

GINES, &c. Type of Engines Heavy oil engine, solid inj. 2 or 4 stroke cycle 2 Single or double acting Single

m pressure in cylinders 52 kg/cm<sup>2</sup> Diameter of cylinders 28 11/32" 49 7/32" Length of stroke 1250 mm No. of cylinders 9 No. of cranks 9

ndicated Pressure 5.75 kg/cm<sup>2</sup> Max. 6.0 kg/cm<sup>2</sup> Span of bearings (i.e., distance between inner edges of bearings in

a crank) --- Is there a bearing between each crank. Yes Revolutions per minute Maximum 125 Service 125

el 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

el dia. --- Weight --- " " " " balance wts. ( " " " " )

(Solid forged) Semi built dia. of journals as per Rule --- as fitted --- Crank pin dia. --- Crank webs Mid. length breadth --- Mid. length thickness --- Thickness parallel to axis --- Thickness around eyehole ---

el Shaft, diameter as per Rule --- as fitted --- Intermediate Shafts, diameter as fitted --- Thrust Shaft, diameter at collars as fitted ---

haft, diameter as per Rule --- as fitted --- Screw Shaft, diameter as fitted --- The screw shaft fitted with a continuous liner Yes

Liners, thickness in way of bushes as per Rule 21.2 mm. as fitted 21.5 mm. Thickness between bushes as fitted 21.5 mm. Is the after end of the liner made watertight in the

er boss. Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner. One length

iner 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-

e. tightly If two liners are fitted, is the shaft lapped or protected between the liners. --- Is an approved Oil Gland fitted at the after

stern tube. No If so, state type. --- Length of bearing in Stern Bush next to and supporting propeller 2300 mm.

er, dia. 5200 Pitch 3942/2899 No. of blades 4 Material Bronze whether moveable. No Total developed surface 9.71 sq. feet

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

of reversing Engines. Compr. air Is a governor or other arrangement fitted to prevent racing of the engine. Yes Means of

ion. Forced Thickness of cylinder liners --- Are the cylinders fitted with safety valves. Yes Are the exhaust pipes and silencers water cooled

d with non-conducting material. Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

the engine. Led to a funnel Cooling Water Pumps, No. and how driven 1 salt water 5430 litres per minute. 1 fresh water

Spare F.W. S.W. Is the sea suction provided with an efficient strainer which can be cleared within the vessel. Yes

pumps worked from the Main Engines, No. and capacity None Can one be overhauled while the other is at work. ---

connected to the Main Bilge Line No. and capacity of each 1 ballast 150 tons/h, 1 bilge 40 tons/h, 1 transfer pump 30 t/h.

How driven Steam El-motor Steam

ooling 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

ments. ---

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

independent means arranged for circulating water through the Oil Cooler. Yes Branch Bilge Suctions.

size: In machinery spaces 3 x 3 1/2"; 2 x 3"; 3 x 2" to cofferdam in engine room In pump room 4 x 4" to main p.r.

In dry cargo hold 2 x 2 1/2" chain locker 2 x 2" forward pump room 1 x 2 1/2" cofferdam forward 1 x 5"

Bilge Suctions to the engine room bilges, No. and size 1 x 6"; 1 x 3 1/4"; 1 x 3"

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

le mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges. Yes

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

tly 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

y 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

ipes pass through the bunkers. No coal bunkers How are they protected. ---

ipes pass through the deep tanks. Heating coils Have they been tested as per Rule. Yes

pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings 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

or from one compartment to another. Yes Is the shaft tunnel watertight. Mch. aft. Is it fitted with a watertight door. --- worked from. ---

od vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork. ---

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

19 Primary Air Compressors, No. 2 No. of stages 4 M<sup>3</sup> at diameters 30 kg/cm<sup>2</sup> stroke --- driven by El-motor

Auxiliary Air Compressors, No. 1 No. of stages 113 litres at diameters 25 kg/cm<sup>2</sup> stroke --- driven by El-motor

21 Provision is made for first charging the air receivers. The small starting up compressor which is also handdriven

22 Charging Air Pumps or Blowers, No. 1 D.A. for each cylinder How driven. ---

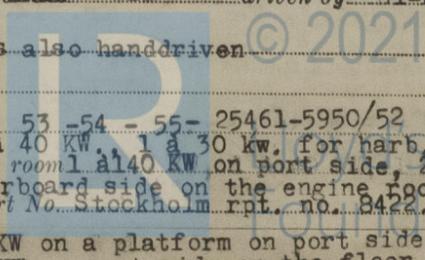
25 Primary Engines Have they been made under survey. Yes Engine Nos. 53-54-55-25461-5950/52

Makers name AR Hedemora Verkstader Position of each in engine room 1 a 140 KW on port side, 2 a 140 KW on starboard side on the engine room floor. Report No. Stockholm rpt. no. 8422

1 a 40 KW on a platform on port side 1 a 30 KW on port side on the floor (harb. light).

all 12.2.52

8500-26810-69811 11869-01870-0038



**AIR RECEIVERS:**—Have they been made under survey. Yes ✓ State No. of report or certificate ---  
 State full details of safety devices ---  
 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. E.W. Material. SM steel Range of tensile strength. 44-50 kg/mm<sup>2</sup> Working pressure Actual

Are ~~ANY~~ **DONKEY BOILERS FITTED** Yes ✓ If so, is a report now forwarded. Yes ✓  
 Is the donkey boiler intended to be used for domestic purposes only. No, also for the auxiliary machinery and heating coils  
**PLANS.** Are approved plans forwarded herewith for shafting. 14/4 1949 Receivers. 8/3 1949 Separate fuel tank  
 (If not, state date of approval)  
 Donkey boilers. 19/7 1949 General pumping arrangements. 8/3 1951 Pumping arrangements in machinery space. 8/3 1951  
 Oil fuel burning arrangements. 12/4 1950  
 Have Torsional Vibration characteristics been approved. Yes Date and particulars of approval. 13/4 1949

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied. Yes ✓ State if for "short voyages" only ---  
 State the principal additional spare gear supplied. 1 complete cylinder liner, 1 cylinder cover complete with all valves,  
 2 complete sets of valves for one cover, 1 piston complete with rings, 1 propeller shaft with nut.

The foregoing is a correct description of the machinery. **AKTIEBOLAGET LINDHOLMENS VARV** Manufacturer.

Dates of Survey while building: During progress of work in shops - - 16th October 1950 - 21st December 1951  
 During erection on board vessel - - -  
 Total No. of visits. 103

Dates of examination of principal parts—Cylinders --- Covers --- Pistons --- Rods --- Connecting rods ---  
 Crank shaft --- Flywheel shaft --- Thrust shaft --- Intermediate shafts. 21/9 1951 Tube shaft ---  
 Screw shaft. 21/9 1951 Propeller. 30/11 1951 Stern tube. 16/10 1950 Engine seatings. 10/10 1951 Engine holding down bolts. 1/11  
 Completion of fitting sea connections. 10/10 1951 Completion of pumping arrangements. 14/12 1951 Engines tried under working conditions. 20/1

Crank shaft, material --- Identification mark --- Flywheel shaft, material --- Identification mark ---  
 Thrust shaft, material --- Identification mark --- Intermediate shafts, material. SM steel Identification mark NF 2  
 Tube shaft, material --- Identification mark --- Screw shaft, material. SM steel Identification mark NF 21.9  
 Identification marks on air receivers. Starboard: No. 2414 Lloyd's test 48.5 kg. WP 30 kg. NF 10.10.51  
 Port: No. 2415 Lloyd's test 48.5 kg. WP 30 kg. NF 13.10.51

Welded receivers, state Makers' Name. AB Lindholmens 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 ✓  
 Full description of fire extinguishing apparatus fitted in machinery spaces. Steam under engine and boilers. A central foam system under boiler room, 4 hoses, 1 a 150 l. portable foam apparatus, port. foam app. 1 hose for central foam in boiler room.  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo. --- If so, have the requirements of the Rules been complied with ---  
 What is the special notation desired. ---

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. M/t "SLIEDRECHT" Got. F.E. Rpt. No. ---  
 M/t "NERMA DAN" Got. F.E. Rpt. No. ---  
 M/t "CHRISTIANSBORG" Got. F.E. Rpt. No. ---

**General Remarks** (State quality of workmanship, opinions as to class, Speed restrictions, &c.) The main and auxiliary engines of this vessel have been built under special survey (See Got. Rpt. No. 18563 on the main engine and Skm. Surveyors' rpt. No. 84 24 auxiliary engine). Test sheets in respect of the straight shafting are attached. Material cert. of air receivers high on t  
 with our report No. 18580. The machinery has been securely fitted in the vessel under our inspection and to our ch fitted  
 tion and has been tested under full power conditions on a trial trip and found in order. A special plan showing pass thr  
 position of the machinery is attached. A "Spanner" Exhaust gas Economiser, made by A/S Elektrisk Sveising, Oslo, pass thro  
 copy of Oslo rpt. No. 6689 attached, has been fitted on board and its safety valves have been adjusted under ste es, cocks,  
 170 lbs. per square inch. This economiser works as heater in conjunction with the oil fired boilers. The machiner agement o  
 vessel is eligible, in our opinion, to be classed +IMC 12,51. Tail shaft fitted with Continuous Liner, and Worki rom one co  
 Pressure of 2 Donkey Boilers 170 lbs. per square inch. essel, wha  
 Air receiver Compress

The amount of ~~EMV~~ Fee ... Kr. 300:00  
 Special ... Kr. 1810:00  
 Butterworth app. ... Kr. 120:00  
 Donkey Boiler Fee...  
 Travelling Expenses (if any) £

When applied for 14/1 1952  
 When received --- 19 ---  
*Sten Johansson* M.A. Tullberg  
 Engineer/Surveyor to Lloyd's Register of S

Committee's Minute TUES. 19 FEB 1952  
 Assigned + LMC 12.51 Oil Eng.  
 O.L. 20B 170/16.



Gothenburg Office

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