

REPORT ON OIL ENGINE MACHINERY.

12 JAN 1953

Received at London Office

Date of writing Report 2nd Jan. 1953 When handed in at Local Office 9th Jan. 1953 Port of Gothenburg

No. in Survey held at Gothenburg Date, First Survey 30.10.51 Last Survey 20.12.1952
Reg. Book. Number of Visits 87

95496 on the ~~Triplex~~ ^{Single} Screw vessel Motor Tanker "PETRA DAN" Tons Gross 10843 Net 6146

Built at Gothenburg By whom built AB Lindholmens Varv Yard No. 1028 When built 1952

Engines made at Gothenburg By whom made AB Lindholmens Varv Engine No. 1315 When made 1952

Donkey Boilers made at Gothenburg By whom made AB Lindholmens Varv Boiler No 2957-58 When made 1952

Brake Horse Power { Maximum 6000 Owners Rederi Ocean A/S Port belonging to Esbjerg
Service -

M.N. as per Rule (1120) $\frac{BHP}{5} = 1200$ Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended General

IL ENGINES, &c. — Type of Engines Diesel and heavy oil DM 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 49 Diameter of cylinders 680 mm. Length of stroke 1500 mm. No. of cylinders 8 No. of cranks 8

Mean Indicated Pressure 6.75 Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 974 mm. Is there a bearing between each crank Yes

Revolutions per minute { Maximum 112 Service -

Flywheel dia. 2136 mm. Weight 4100 kgs. Moment of inertia of flywheel (lbs. in² or Kg. cm²) 32100 Means of ignition Compr. Kind of fuel used Diesel or heavy oil

Crankshaft, ~~solid forged~~ ^{appr. 480/130 mm.} dia. of journals ~~480/130 mm.~~ Crank pin dia. 480/105 mm. Crank webs Mid. length breadth - Thickness parallel to axis 300 mm. ~~shrunk~~ Mid. length thickness - Thickness around eye-hole 245 mm.

Flywheel Shaft, diameter as per Rule - Intermediate Shafts, diameter as fitted 392 mm. Thrust Shaft, diameter at collars as fitted 480 mm.

Propeller Shaft, diameter as fitted - Screw Shaft, diameter as fitted 437 mm. Is the ~~shaft~~ ^{shaft} fitted with a continuous liner { Yes

Bronze Liners, thickness in way of bushes as per Rule 21 mm. Thickness between bushes as fitted 21 mm. Is the after end of the liner made watertight in the propeller 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

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 fitted at the after end of stern tube - If so, state type - Length of bearing in Stern Bush next to and supporting propeller 2256 mm.

Propeller, dia. 5400 Pitch 4319/3176 mm. No. of blades 4 Material Bronze whether moveable No Total developed surface 10.07 sq. m.

Moment of inertia of propeller including entrained water (lbs. in² or Kg. cm²) - Kind of damper, if fitted None

Method of reversing Engines compr. air Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of indication Forced

Thickness of cylinder liners 50 mm. 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 to the engine led to funnel Cooling Water Pumps, No. and how driven 3 el-driven Working F.W. 1x4600 l/min. Spare F.W. 1x4600 l/min. 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. and capacity None Can one be overhauled while the other is at work -

Bilge Pumps connected to the Main Bilge Line No. and capacity of each 1 x 80 ton/hour 1 x 150 tons/hour How driven El-driven Steam

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 -

Oil Pumps, No. and capacity 1x150 tons/h. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 x 230 m³/h. Are two independent means arranged for circulating water through the Oil Cooler Yes Branch Bilge Suctions -

Oil Pipe diam. and size: — In machinery spaces 2x75 mm; 3x90 mm.; CD 3 x 50 mm.; Aft CD 1 x 150 mm. In pump room 4 x 4" fwd. 1 x 2 1/2"

Oil Pipes, &c. Dry cargo hold 2 x 2.5" fwd. CD 1 x 5" F.P.T. 1 x 5"

Bilge Suctions to the engine room bilges, No. and size 1 x 110 mm.; 1 x 150 mm.; 1 x 200 mm.

Are the bilge suction pipes in holds and tunnel well 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

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

Are the overboard discharges above or below the deep water line above

Are the blow off cocks fitted with a spigot and brass covering plate Yes

Do the pipes pass through the bunkers No coal bunkers How are they protected -

Do the pipes pass through the deep tanks Heating coils Have they been tested as per Rule Yes

Are the pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Are the arrangements 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

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Is the shaft tunnel watertight Yes Is it fitted with a watertight door - worked from -

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

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

202.2 Auxiliary Air Compressors, No. Two No. of stages 2 diameters 9 1/4" - 4" stroke 7 1/2" driven by El-motor

20.1 Small Auxiliary Air Compressors, No. One No. of stages 2 diameters - stroke - driven by El-motor

What provision is made for first charging the air receivers By the small aux. air compressor supplied by the Harbour light generator or steam generator.

Scavenging Air Pumps or Blowers, No. 8, plus underside of M.E. piston How driven By a lever from each crosshead, and also under

Auxiliary Engines Have they been made under survey Yes Engine Nos. 63, 64 and 65

Makers name AB Hédemora Verkstäder Position of each in engine room 1x140 KW. on port side

1x140 KW. on starb. side on the engine room floor. 1x40 KW. on platform p.s. 1x30 KW. on engine room floor port side. Report No. SKM. report No. 8934

AIR RECEIVERS:—Have they been made under survey. Yes ✓ State No. of report or certificate -
 State full details of safety devices Safety valves on receivers and pipe lines ✓
 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. - Cubic capacity of each - Internal diameter - thickness -
 Seamless, welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure -
 Starting Air Receivers, No. Two ✓ Total cubic capacity 22 m³ Internal diameter 1840 thickness 30 mm. No. in Reg. Book 26
 Seamless, welded or riveted longitudinal joint E.W. Material SM Steel Range of tensile strength 44-50 Working pressure Actual 25 95496
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 No. also for auxiliary machinery and heating coils
PLANS. Are approved plans forwarded herewith for shafting 26.1.51 - 28.11.51 Receivers 28.11.50 Separate fuel tanks 22
 Donkey boilers 8.12.50 General pumping arrangements 22.9.52 Pumping arrangements in machinery space 3.5.52
 Oil fuel burning arrangements 12.3.51
 Have Torsional Vibration characteristics been approved Yes Date and particulars of approval 18.1.52

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 One propeller shaft with nut

AKTIEBOLAGET LINDHOLMENS VARV

The foregoing is a correct description of Maskinrikontoret Manufacturer.

Dates of Survey while building
 During progress of work in shops - - 30.10.51
 During erection on board vessel - - 20.12.52
 Total No. of visits 87 31/7-4/8-6/8-
 Dates of examination of principal parts—Cylinders 7/8 1952 Covers 19.8.52 Pistons 20.5.52 Rods 20.5.52 Connecting rods 20.5.52
 Crank shaft 9.6.52 Flywheel shaft - Thrust shaft 9.6.52 Intermediate shafts 4.9.52 Tube shaft -
 Screw shaft 4.9.52 Propeller 4.9.52 Stern tube 30.10.51 Engine seatings 1.10.52 Engine holding down bolts 22-23/1
 Completion of fitting sea connections 17.9.52 Completion of pumping arrangements 20.12.52 Engines tried under working conditions 20.12.52
 Crank shaft, material SM Steel Identification mark LL.No.7896-97 GA 9.6.52 Flywheel shaft, material - Identification mark LL.No.611 NF.4.9.
 Thrust shaft, material SM Steel Identification mark LL.No.7898 GA 9.6.52 Intermediate shafts, material SM Steel Identification marks LL.No.617 NF.4.9.
 Tube shaft, material - Identification mark - Screw shaft, material SM Steel Identification mark LL.No.675 NF.4.9.
 Identification marks on air receivers No. 2508-09 LL. test 41 kg. WP 25 kg. NF 10.9.52 LV.No.2967-68 Small star. up bottle LL. test HP. 65 kg/cm² WP. 40 kg/cm² 2.6.52 W.L.No. 5953

Welded receivers, state Makers' Name Messrs. AB Lincholmens Varv
 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 ✓ Steam smothering in pump rooms. Steam engines and boilers. A central CO₂ system in ER. 1x3000 litres foam. 1x110 l. port foam. 3 hoses in machinery spaces. 1 hose in BR. 4x12 litres in BR. 8x12 litres foam.
 Full description of fire extinguishing apparatus fitted in machinery spaces 1 hose in BR. 4x12 litres in BR. 8x12 litres foam.
 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 - If so, state name of vessel -

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 (Please see Stockholms rpt No.8934 on the aux. engine.) The workmanship and material used are good and el. welding of the ME bedplate and entablatures has been carried out to our satisfaction. Test sheers in respect of crank- thrust- intermediate and screw shafts, air receivers materials and propellers are attached. The machinery has been examined under full working power on a trial trip and found to works satisfactorily. An exhaust economiser of AB. Götaverken's multitubular type has been built under Special Survey in accordance with Rules and approved plans, and has been securely fitted onboard. A plan showing the position of the machinery details attached. This machinery is eligible in our opinion to be classed Lloyd's + LMC 12,52 with notation of T.S. fitted with C.L. and 2 DB & 150
 Amended 2013170 ll vs
 for Got ltr 2-2-53

The amount of **SS** Fee ... Kr. 5680:00
 E.W. of bedplate etc. Kr. 580:00
 Special ... £
 Start air receiver fee Kr. 330:00
 Donkey Boiler Fee... £
 Exh.gas economiser Kr. 150:00
 Travelling Expenses (if any) £
 Butterworth heater & cooler Kr. 120:00

When applied for 9th Jan. 19 53.
 When received ----- 19 --

Sten Johansson N.A. Hjalmar
 Engineer Surveyor to Lloyd's Register of Shipping



Assigned + LMC 12,52 Oil Eng
CL 2013170 ll
 FEB 23 JAN 1953

Gothenburg Office, # 23/12.1.53

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