

REPORT ON OIL ENGINE MACHINERY.

No. 17700.

Received at London Office

Date of writing Report 28th August 1950. When handed in at Local Office 6th Sept. 1950. Port of Gothenburg. 7 SEP 1950

No. in Survey held at Gothenburg Date, First Survey 11th January Last Survey 15th August 1950. Number of Visits 65

Reg. Book. 90155 on the ~~XXXX~~ ~~XXXX~~ ~~XXXX~~ Single Screw vessel "E T N E F J E L L" Tons Gross 9832 Net 5753

Built at Gothenburg By whom built Eriksbergs Mek. Verkstads A-B. Yard No. 397 When built 1950

Engines made at Gothenburg By whom made Eriksbergs Mek. Verkstads A-B. Engine No. 494 When made 1950

Donkey Boilers made at Glasgow By whom made Broomside Boiler Works Barclay Curle & Co. Boiler No. 421 When made 1949

Service & Max. H.P. 5103 Owners A/S Dovrefjell Co. Port belonging to Oslo

Brake Horse Power 5103 M.N. Power as per Rule 1106 NMP = 1034 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended General

OIL ENGINES, &c. — Type of Engines Heavy oil engine, B & W crosshead type 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 48 kg/cm² Diameter of cylinders 740 mm. Length of stroke 1400 mm. No. of cylinders 7 No. of cranks 7

Mean Indicated Pressure 6.4 kg/cm² Ahead Firing Order in Cylinders 1-7-2-5-4-3-6 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 948 mm. Is there a bearing between each crank Yes Service & Max. r.p.m. 105

Flywheel dia. 2430 mm. Weight 11470 kg Moment of inertia of flywheel 40000 Kg/m² Means of ignition Compr. Kind of fuel used Diesel oil

Crank Shaft, dia. of journals 520 mm. Crank pin dia. 520 mm. Crank webs Mid. length breadth --- Mid. length thickness --- Thickness parallel to axis 270 mm. Thickness around eye hole 295 mm.

Flywheel Shaft, diameter as per Rule --- Intermediate Shafts, diameter as fitted 450 mm. Thrust Shaft, diameter at collars as fitted 500 mm. (160 mm. cent. hole)

Tube Shaft, diameter as fitted --- Screw Shaft, diameter as fitted 430 mm. Is the (KIDEX) screw shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes appd. 20.5 mm. Thickness between bushes appd. 20.5 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 In 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 tightly 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 No If so, state type --- Length of bearing in Stern Bush next to and supporting propeller 2075 mm.

Propeller, dia. 17' 9" Pitch 14' 3/4" No. of blades 4 Material Bronze whether moveable No Total developed surface 23 Metres sq. 21/9/50

Moment of inertia of propeller 83500 Kg/m² Kind of damper, if fitted None fitted

Method of reversing Engines Compr. air Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Forced Thickness of cylinder liners 52 mm. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or 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. funnel Cooling Water Pumps, No. 2 salt water á 230 M³ per hour, and 2 fresh water á 200 M³ per hour 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 pump á 150 M³/hour, 1 bilge pump á 25 M³/hour, 1 bilge pump á 40 M³/hour. How driven Electrically Electrically 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. ---

Ballast Pumps, No. and size 1 x 150 M³/hour Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 x 230 M³/hour

Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both main bilge pumps and auxiliary bilge pumps, No. and size: In machinery spaces 3 x 3 1/2", 2 x 2 1/2" from crank pit main In pump room 2 x 4"

In forward pump room 1 x 2 1/2", 2 x 2 1/2" from cargo hold, 2 x 2 1/2" from fore peak tank top, 2 x 2 1/2" from chain lockers

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 2 x 3 1/2" to bilge pumps, 1 x 5" to ballast pump

Are all 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

Are all Sea Connections fitted direct on the skin of the Ship tank top Are they fitted with valves or cocks Both Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates No 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 No coal bunkers How are they protected ---

What pipes pass through the deep tanks Bilge pipes from cofferdam 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 (No tunnel) Is it fitted with a watertight door --- worked from ---

If 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 No. of stages 2 diameters 3 1/2" - 8 1/4" stroke 7" driven by 1 electrically 1 steam engine

Small Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 2.1/4" - 5" stroke 3 1/2" driven by Steam engine

What provision is made for first charging the air receivers The above small steam engine driven compressor

Scavenging Air Pumps, No. 2 diameter Rotary type stroke --- driven by Main engine

Auxiliary Engines crank shafts, diameter as per Rule approved 160 mm. No. 2 Position Port and stbd side forward on ER floor

Have the auxiliary engines been constructed under special survey Yes Is a report sent herewith Yes See also Gothenburg F.E. Rpt. No. 17009

AIR RECEIVERS:—Have they been made under survey ☒ Yes State No. of ~~receivers~~ receivers 2203 —

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 --- by Rules --- Actual ---

Starting Air Receivers, No. 2 Total cubic capacity 9.5 M³ Internal diameter 1552 mm. thickness 24 mm.

Seamless, welded or riveted longitudinal joint El. welded Material S.M. Steel Range of tensile strength 44.0-47.7 kg/mm² Working pressure 25.1 by Rules 25.1 Actual 25 kg

IS A DONKEY BOILER FITTED ☒ Yes ☐ No If so, is a report now forwarded ☒ Yes, see also Glasgow F.E. Rpt. No. 74918

Is the donkey boiler intended to be used for domestic purposes only ☒ No ☐ Yes

PLANS. Are approved plans forwarded herewith for shafting London, 10.7.1948 Receivers 7.10.1947 Separate fuel tanks 23.1

(If not, state date of approval)

Donkey boilers --- General pumping arrangements London 10.1.49 Dumping arrangements in machinery space London, 10.1.19

Oil fuel burning arrangements London, 3.2.1949

Have Torsional Vibration characteristics been approved ☒ Yes Date of approval 12.7.1948

SPARE GEAR.

Has the spare gear required by the Rules been supplied ☒ Yes

State the principal additional spare gear supplied 1 propeller shaft, 3 pistons, 1 cylinder-cover, 6 exhaust valves, 14 fuel needle valves, 5 starting valves, 3 cylinder-liners.

The foregoing is a correct description, and the particulars of the installation as fitted are as approved for torsional vibration characteristics.

ERIKSBERGS MEK. VERKSTADS A.-B. Manufacturer.

June Smith.

Dates of Survey while building

During progress of work in shops 11th January - 1st August, 1950.

During erection on board vessel 16th May - 15th August, 1950.

Total No. of visits 65

Dates of examination of principal parts—Cylinders 11-14.3.50 Covers 8-9.3.1950 Pistons 4-13.3.1950 Rods 1.3.1950 Connecting rods 10.2.19

Crank shaft 12.1.1950 Flywheel shaft --- Thrust shaft 11.1.1950 Intermediate shafts 9.5.1950 Tube shaft ---

Screw shaft 8.5.1950 Propeller 8.5.1950 Stern tube 16.2.1950 Engine seatings 22.5.1950 Engine holding down bolts 6.6.195

Completion of fitting sea connections 13.5.1950 Completion of pumping arrangements 10.8.1950 Engines tried under working conditions 28.3.195

Crank shaft, material S.M. Steel Identification mark LL.No. 300-1 SB 13.10.49 Flywheel shaft, material --- Identification mark ---

Thrust shaft, material S.M. Steel Identification mark LL.No. 302 SB 13.10.49 Intermediate shafts, material S.M. Steel Identification mark LL.No. 121

Tube shaft, material --- Identification mark --- Screw shaft, material S.M. Steel Identification mark AS-8.5.50

Identification marks on air receivers Nos. 2203 - 04 LLOYD'S TEST 41 KG. WP. 25 KG. 6.4.50 LR SG

Welded receivers, state Makers' Name Eriksbergs Mekaniska Verkstads Aktiebolag, 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 x 9 litres foam apparatus in engine room, Steam under donkey boilers, Water spray over daily fuel oil tanks.

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 ☒ Yes

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 "Kollstein", Got. F.E. Rpt. No. 17540

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

The main and auxiliary engines of this vessel have been constructed under special survey in accordance with the Rules and approved plans. The workmanship and materials are good, and test sheets in respect of the shafting and air receivers are attached. The machinery has been securely fitted in the vessel under our inspection and to our satisfaction and has been tested under full power conditions on a trial trip and found in order. All pumps for essential services have been examined and tested in accordance with the Rules. A "La Mont" exhaust gas economiser, made by A.-B. Svenska Maskinverken, Södertälje, as per certificate attached has been fitted on board and its safety valves adjusted 10 kgs/cm². This economiser works as a heater in conjunction with the oil fired boilers.

In accordance with the Secretary's letter dated the 12th July, 1949, initialled "E" a notice board has been fitted at the control station stating that the main engine is not to be run continuously between 46 and 55 revolutions per minute, and the tachometer has been marked accordingly. (Continued)

The amount of Entry Fee ... £ --- : ---

Special ... Kr. 5140:00 : When applied for 6th Sept. 1950.

Air Receiver Fee... Kr. 300:00 : When received --- 19 ---

Travelling Expenses (if any) £ --- : ---

Committee's Minute FRI 22 SEP 1950

Assigned +LMC 8.50 Oil Eng. (with endorsement)

2 DB. 143 H.

Gren Borin Engineer Surveyor to Lloyd's Register of Shipping

Rpt. 9a.

Port of

Gothenburg.

Continuation of Report No. 17700 dated the 6th September, 1950, on the

oil engine machinery of the motor tanker "Etnesfjell", of Oslo, No. 90155 in the Register Book.

The machinery of this vessel is eligible, in our opinion, to be classed +LMC 8.50, Tail

Shaft fitted with Continuous Liner, and Working Pressure of 2 Donkey Boilers 143 lbs. per square inch.

Storönskan for self and St. Borin