

Rpt. 4b

RECEIVED

0961 NVB 1959

17454

Date of writing report 6-3-59

Received London

Port Copenhagen

No.

Survey held at Copenhagen

In shops 24

13-10-58

28 JAN 1960 17454

No. of visits

First date

Last date

14-3-59

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. Name

Owners Managers Gross tons

Hull built at Tamise, Belgium By Chantiers Navals Jos. Boel & Fils Port of Registry Fils Yard No. 1362 Year Month

Main Engines made at Copenhagen By Burmeister & Wain Eng. No. 6488 When 1959-2

Gearing made at By

Donkey boilers made at By Blr. Nos. When

Machinery installed at Tamise, Belgium By Chantiers Navals Jos. Boel & Fils When

Particulars of restricted service of ship, if limited for classification

Particulars of vegetable or similar cargo oil notation, if required

Is ship to be classed for navigation in ice? No Is ship intended to carry petroleum in bulk?

Is refrigerating machinery fitted? If so, is it for cargo purposes? Type of refrigerant

Is the refrigerating machinery compartment isolated from the propelling machinery space? Is the refrigerated cargo installation intended to be classed?

The following particulars should be given as fully and as clearly as possible. Where the answer is "No" or "None", say so! Ticks and other signs of doubtful meaning are not to be used. Where the wording is not applicable to the installation, a black line may be inserted. If the main engines have been constructed at another port and are covered by a separate report, the particulars given in that report need not be repeated below, but the port and report number should be stated.

No. of main engines 1 No. of propellers 1 Brief description of propulsion system Reversible heavy oil eng. Direct to propeller

MAIN RECIPROCATING ENGINES. Licence Name and Type No. B&W-DM.874VTBF-160, Turbocharged, crosshead type, solid injection.

No. of cylinders per engine 8 Dia. of cylinders 740 mm stroke 1600 mm 2 or 4 stroke cycle 2 Single or double acting single

Maximum approved BHP per engine 10000 at 115 RPM of engine and 115 RPM of propeller.

Corresponding MIP 8,0 kg/cm² (For DA engines give MIP top & bottom) Maximum cylinder pressure 55 kg/cm² Machinery numeral 2000

Are the cylinders arranged in Vee or other special formation? No If so, number of crankshafts per engine

TWO STROKE ENGINES. Is the engine of opposed piston type? No If so, how are upper pistons connected to crankshaft? Valve in cylinder cover

Is the exhaust discharged through ports in the cylinders or through valve(s) in the cylinder covers? none No. and type of mechanically driven scavenge pumps or blowers per engine and how driven

No. of exhaust gas driven scavenge blowers per engine 2 Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action? yes

If a stand-by or emergency pump or blower is fitted, state how driven electrically driven No. of scavenge air coolers 2 Scavenge air pressure at full power 0,42 kg/cm² Are scavenge manifold explosion relief valves fitted? yes

FOUR STROKE ENGINES. Is the engine supercharged? Are the undersides of the pistons arranged as supercharge pumps? No. of exhaust gas driven blowers per engine

No. of supercharge air coolers per engine Supercharge air pressure Can engine operate without supercharger?

TWO & FOUR STROKE ENGINES--GENERAL. No. of valves per cylinder: Fuel 2 Inlet in cyl. Exhaust 1 Starting 1 Safety 1

Material of cylinder covers cast steel Material of piston crowns cast steel Is the engine equipped to operate on heavy fuel oil? yes

Cooling medium for: -Cylinders Fresh water Pistons lub. oil Fuel valves fuel oil Overall diameter of piston rod for double acting engines

Is the rod fitted with a sleeve? no Is welded construction employed for: Bedplate? no Frames? no Entablature? no Is the crankcase separated from the underside of pistons? yes Is the engine of crosshead or trunk piston type? head Total internal volume of crankcase 156 m³ No. and total area of explosion relief devices 17-99 cm² Are flame guards or traps fitted to relief devices? no Is the crankcase readily accessible? yes If not, must the engine be removed for overhaul of bearings, etc? Is the engine secured directly to the tank top or to a built-up seating? How is the engine started? compressed air

Can the engine be directly reversed? yes If not, how is reversing obtained?

Has the engine been tested working in the shop? yes How long at full power? 6 hours base 410C.

CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system 25-3-1958 State barred speed range(s), if imposed for working propeller For spare propeller Is a governor fitted? yes Is a torsional vibration damper or detuner fitted to the shafting? No

Where positioned? Type No. of main bearings 10 Are main bearings of ball or roller type? No Distance between inner edges of bearings in way of crank 958 mm Distance between centre lines of side cranks or eccentrics of opposed piston engines

Crankshaft type: Built, semi-built, solid. (State which) All built

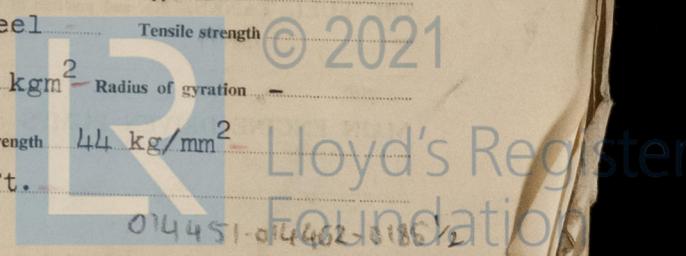
Diameter of journals 550 mm Diameter of crankpins 220 mm Centre 550 mm hole Side 220 mm centr. Breadth of webs at mid-throw 1180 mm Axial thickness of webs 335/280 mm

If shrunk, radial thickness around eyeholes Are dowel pins fitted? Crankshaft material Journals SM-Steel Pins SM-Steel Minimum 44 kg/mm² Approved Tensile strength

Weight of flywheel 4400 kgm² Weight Are balance weights fitted? Yes Total 29900 kgm² Radius of gyration

Diameter of flywheel shaft 520 mm Material SM-Steel Minimum approved tensile strength 44 kg/mm²

Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which) Integral with thrustshaft.



GENERAL REMARKS

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship and give recommendations for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

The above machinery is built under special survey in accordance with the Rules, the approved plans and the Secretary's letters.

The material used has been tested as required by the Rules, the workmanship is good.

On completion the engine was tested under full power working condition in the shop.

The regulator and manoeuvring of the engine was also tested and found good.

Recommend the machinery of this vessel to have notation of L.M.C. when installed in the ship, under special survey.

Blissen 19/3 1959

Engineer Surveyor to Lloyd's Register of Shipping.

PARTICULARS OF IDENTIFICATION MARKS (Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

RODS Piston Rods:	4 off 4 off	Lloyd's CPN Nos.	4482-4483 ✓	SD 4-2-59
Connecting rods:	3 off 5 off	Lloyd's CPN Nos.	4477-4478 X	SD 2-2-59
CRANKSHAFT OR ROTOR SHAFT	1 off forward 1/2 length	Lloyd's CPN No.	4465 X	SD 30-1-59
Crank FLYWHEEL SHAFT	1 off aftermost 1/2 length	Lloyd's CPN No.	4466 X	SD 30-1-59
THRUSTSHAFT	1 off	Lloyd's CPN No.	4467 X	SD 30-1-59

GEARING

INTERMEDIATE SHAFTS

SCREW AND TUBE SHAFTS

PROPELLERS

OTHER IMPORTANT ITEMS Crossheads:	4 off 4 off	Lloyd's CPN Nos.	4479-4480 X	SD 2-2-59
Cylinder Covers	8 off 1 off spare	Lloyd's Test CPN 10 Atm.		ED 29-12-59
Cylinder Liners & Jackets	8 off	Lloyd's Test CPN 7 Atm.		SD 30-1-59
Pistons	8 off 1 off spare	Lloyd's Test CPN 5 Atm.		VL 16-10-59

Is the installation a duplicate of a previous case? If so, state name of vessel

Date of approval of plans for crankshaft 25-3-58 Straight shafting Gearing Clutch
 Separate oil fuel tanks Pumping arrangements Oil fuel arrangements
 Cargo oil pumping arrangements Air receivers Donkey boilers

Dates of examination of principal parts:—

Fitting of stern tube Fitting of propeller Completion of sea connections Alignment of crankshaft in main bearings
 Engine checks & bolts Alignment of gearing Alignment of straight shafting Testing of pumping arrangements

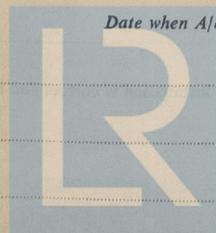
Oil fuel lines Donkey boiler supports Steering machinery Windlass

Date of Committee **FRIDAY - 4 MAR 1960**
 Decision *See Rpt. 1*
 Construction Special Survey Fee Kr. 6660,-
 Forgings Kr. 1830,-
 Turbo charger. BW. Kr. 440,-
 Pumps, coolers etc. Kr. 500,-

Expenses

ENTERED IN COPENHAGEN ROUGH FEE BOOK ON 19/3 1959

Date when A/c rendered



Lloyd's Register Foundation