

## REPORT ON OIL ENGINE MACHINERY.

No. 18970

Date of writing Report 20 July 1953 When handed in at Local Office 19 Port of Amsterdam  
 No. in Survey held at Amsterdam Date, First Survey 28<sup>th</sup> January Last Survey 11 July 1953  
 Reg. Book. Single on the Twin Triple Quadruple Screw vessel "BARAD" Tons Gross 1953 Net 1953  
 Built at Martinshoek By whom built Munn. Bodewes Yard No. 401 When built 1953  
 Engines made at Amsterdam By whom made Werkspon N.V. Engine No. 1601 When made 1953  
 Donkey Boilers made at ✓ By whom made Indonesian Republic Boiler No. ✓ When made ✓  
 Brake Horse Power { Maximum 430 Owners Indonesian Republic Port belonging to ✓  
 Service 86 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted  
 M.N. as per Rule 86 Trade for which vessel is intended Open Sea

OIL ENGINES, &c. — Type of Engines T.M.A.S. 276 2 or 4 stroke cycle 4 Single or double acting single  
 Maximum pressure in cylinders 50 kg/cm<sup>2</sup> Diameter of cylinders 270 mm Length of stroke 500 mm No. of cylinders 6 No. of cranks 6  
 Mean Indicated Pressure 7.41 kg/cm<sup>2</sup> A.F.O. 1-3-5-6-4-2 Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 318 mm Is there a bearing between each crank yes Revolutions per minute { Maximum 375 Service 375  
 Flywheel dia. 1120 mm Weight 1250 kg Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg.cm<sup>2</sup>) ✓ Means of ignition Compa Kind of fuel used Diesel  
 " " " " balance wts. ( " " " " ) ✓  
 Crank Shaft, { Solid forged ✓ dis. of journals as per Rule Crank pin dia. 200 mm Crank webs { Mid. length breadth 240 mm Thickness parallel to axis ✓  
 { Semi-built ✓ as fitted 200 mm Mid. length thickness 82 mm shrunk Thickness around eyehole ✓  
 { All built ✓ as fitted 200 mm Thrust Shaft, diameter at collars as per Rule 145 mm ✓  
 Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule 190 mm ✓  
 Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule 177.5 mm ✓ Is the { tube shaft fitted with a continuous liner {  
 { as fitted ✓ { screw ✓  
 Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule 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 ✓  
 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 ✓ Is an approved Oil Gland fitted at the after end of stern tube ✓  
 If two liners are fitted, is the shaft lapped or protected between the liners ✓ Length of bearing in Stern Bush next to and supporting propeller ✓  
 Propeller, dia. 1515 mm Pitch ✓ No. of blades 4 Material brass whether moveable fixed Total developed surface ✓ sq. feet 53  
 Moment of inertia of propeller including entrained water (lbs. in<sup>2</sup> or Kg.cm<sup>2</sup>) ✓ Kind of damper, if fitted ✓  
 Method of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine yes Means of lubrication forced Thickness of cylinder liners 25 mm Are the cylinders fitted with safety valves ? Are the exhaust pipes and silencers water cooled or lagged with non-conducting material water cooled If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine ✓  
 Cooling Water Pumps, No. and how driven 1 M.E. driven Working F.W. ✓  
 S.W. Cap 1ST/h Spare F.W. ✓ Is the sea suction provided with an efficient strainer which can be cleared within the vessel ✓  
 Bilge Pumps worked from the Main Engines, No. and capacity 1 - Cap. 1ST/h Can one be overhauled while the other is at work ✓  
 Pumps connected to the Main Bilge Line { No. and capacity of each ✓ How driven ✓  
 Is the cooling water led to the bilges ✓ 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 capacity ME Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 - Cap 4.8T/h  
 Are two independent means arranged for circulating water through the Oil Cooler ✓ Branch Bilge Suctions ✓  
 No. and size:—In machinery spaces ✓ In pump room ✓  
 In holds, &c. ✓

Direct Bilge Suctions to the engine room bilges, No. and size ✓  
 Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes ✓ 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 ✓  
 Are all Sea Connections fitted direct on the skin of the Ship ✓ Are they fitted with valves or cocks ✓ Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates ✓ Are the overboard discharges above or below the deep water line ✓  
 Are they each fitted with a discharge valve always accessible on the plating of the vessel ✓ Are the blow off cocks fitted with a spigot and brass covering plate ✓  
 What pipes pass through the bunkers ✓ How are they protected ✓  
 What pipes pass through the deep tanks ✓ Have they been tested as per Rule ✓  
 Are all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times ✓  
 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 ✓ Is the shaft tunnel watertight ✓ 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. 1 No. of stages 2 diameters 100/120 mm stroke 90 mm driven by Main Eng.  
 Auxiliary Air Compressors, No. ✓ No. of stages ✓ diameters ✓ stroke ✓ driven by ✓  
 Small Auxiliary Air Compressors, No. ✓ No. of stages ✓ diameters ✓ stroke ✓ driven by ✓  
 What provision is made for first charging the air receivers ✓  
 Leavenging Air Pumps or Blowers, No. ✓ How driven ✓  
 Auxiliary Engines ✓ Have they been made under survey ✓ Engine Nos. ✓  
 Makers name ✓ Position of each in engine room ✓  
 Report No. ✓

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**AIR RECEIVERS:**—Have they been made under survey... yes State No. of report or certificate DPC 4041/4059  
 State full details of safety devices Spring loaded safety valves fitted  
 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.** 2 **Total cubic capacity** 1240h **Internal diameter** 502 mm **thickness** 9.5 mm  
**Seamless, welded or riveted longitudinal joint** Seamless **Material** S.M. Steel **Range of tensile strength** 37.4 - 48.7 kg/mm<sup>2</sup> **Working pressure** 30 atm  
33.1 - 49.1 kg/cm<sup>2</sup>

**IS A DONKEY BOILER FITTED** ✓ If so, is a report now forwarded ✓  
 Is the donkey boiler intended to be used for domestic purposes only ✓

**PLANS.** Are approved plans forwarded herewith for shafting 13-3-53 **Receivers** 13-3-53 **Separate fuel tanks** ✓  
 (If not, state date of approval)  
**Donkey boilers** ✓ **General pumping arrangements** ✓ **Pumping arrangements in machinery space** ✓  
**Oil fuel burning arrangements** ✓  
**Have Torsional Vibration characteristics been approved** yes **Date and particulars of approval** 5-3-53

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied ✓ State if for "short voyages" only ✓  
 State the principal additional spare gear supplied ✓

The foregoing is a correct description,  
WERKSPOR N.V.

Manufacturer.

**Dates of Survey while building**  
 During progress of work in shops - 10-5-53; 28/1 - 3/2 - 5/2 - 2/4 - 19/6 - 1/7  
 During erection on board vessel - ✓  
**Total No. of visits** 6

**Dates of examination of principal parts** Cylinders 28-1-53 Covers 5-2-53 Pistons 10-6-53 Rods Connecting rods 10-6-53  
Block: 3-2-53  
**Crank shaft** 30-3-53 **Flywheel shaft** ✓ **Thrust shaft** 13-7-48 **Intermediate shafts** ✓ **Tube shaft** ✓  
**Screw shaft** ✓ **Propeller** ✓ **Stern tube** ✓ **Engine seatings** ✓ **Engine holding down bolts** ✓  
**Completion of fitting sea connections** ✓ **Completion of pumping arrangements** ✓ **Engines tried under working conditions** ✓  
**Crank shaft, material** S.M. Steel **Identification mark** Lloyds No. 1534 **Flywheel shaft, material** ✓ **Identification mark** ✓  
**Thrust shaft, material** S.M. Steel **Identification mark** Lloyds No. 6294 **Intermediate shafts, material** ✓ **Identification marks** ✓  
**Tube shaft, material** ✓ **Identification mark** ✓ **Screw shaft, material** ✓ **Identification mark** ✓  
**Identification marks on air receivers** No 51/3. Ployas Test T.P. 60 atm. W.P. 30 atm. H.S.A 2-7-52. No 46/3. Ployas Test T.P. 60 atm. W.P. 30 atm. H.S. 9-7-52.

**Welded receivers, state Makers' Name** Mess Rhinische Röhrenwerke A.G. of Düsseldorf. Hierrefeld.

Is the flash point of the oil to be used over 150°F ✓

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with ✓

Full description of fire extinguishing apparatus fitted in machinery spaces ✓

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 ✓

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.)

This engine has been built under special Survey in accordance with approved plan Society Rules and Secretary's letters. All materials have been tested as required and the workmanship found good. The engine has been tried on makers test bed under full load conditions and found working satisfactorily.

In my opinion the vessel for which this engine is intended will be eligible for the notation L.M.C. (with date) when the machinery has been fitted and tried on board. The engine has been shipped to Martenshoek (Groningen District).

Copy certificates of crankshaft, thrustshaft and starting air receivers attached hereto.

**The amount of Entry Fee** fl. 341-  
**Special** fl.  
**Donkey Boiler Fee** fl.  
**Travelling Expenses (if any)** fl. 5-  
**When applied for** 27-7 1953  
**When received** 19

**Committee's Minute** See Rpt. 46.

**Assigned** See Rpt. 46.

THURSDAY 11 NOV 1953

