

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 353016

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Date of writing Report 22 October 1952 When handed in at Local Office 19 Port of Rotterdam
No. in Survey held at Amsterdam and Schiedam Date, First Survey 31.5.51 Last Survey 10 October 1952
Reg. Book. 69063 on the Twin Triple Quadruple Screw vessel "Matola" Lutter Lopper Dredger
Built at Schiedam By whom built H. J. G. J. van der Meer Yard No. 1167 When built 1952
Engines made at H. J. G. J. van der Meer By whom made H. J. G. J. van der Meer Engines No. 2551 When made 1952
Donkey Boilers made at By whom made Boiler No. When made
Brake Horse Power 2 x 475 Owners Direccao de Fundacao da Universidade de Alameda Port belonging to Corinao Hargues
M.N. Power as per Rule 190 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
Trade for which vessel is intended Dredging purposes

OIL ENGINES, &c. —Type of Engines Smith M.A.N. heavy oil engines 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 50 kg/cm² Diameter of cylinders 365 mm Length of stroke 550 No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 6.5 kg/cm² Ahead Firing Order in Cylinders 1-3-5-6-4-2 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 452 mm Is there a bearing between each crank Yes Revolutions per minute 120

Flywheel dia. 1350 mm Weight 2600 kg Moment of inertia of flywheel (lbs. in² or Kg. cm²) 4100 kg cm² Means of ignition Lampara Kind of fuel used Diesel

Crank Shaft, Solid forged dia. of journals as per Rule 140 mm Crank pin dia. 240 mm Crank webs Mid. length breadth 160 mm Thickness parallel to axis 114.5 mm Kind of fuel used Diesel

Flywheel Shaft, diameter as per Rule 140 mm Intermediate Shafts, diameter as per Rule 140 mm Thrust Shaft, diameter at collars as per Rule 150 mm

Tube Shaft, diameter as per Rule 140 mm Screw Shaft, diameter as per Rule 140 mm Is the tube screw shaft fitted with a continuous liner No

Bronze Liners, thickness in way of bushes as per Rule 140 mm Thickness between bushes as per Rule 140 mm Is the after end of the liner made watertight in the propeller boss Yes

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 Yes If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of tube shaft Yes

Length of bearing in Stern Bush next to and supporting propeller 660 mm

Propeller, dia. 2115 mm Pitch 160 mm No. of blades 4 Material Bronze whether moveable no Total developed surface 4095 sq. feet

Moment of inertia of propeller (lbs. in² or Kg. cm²) 455 kg cm² Kind of damper, if fitted Yes

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Tapered Thickness of cylinder liners 27 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Yes Cooling Water Pumps, No. 2, 1000 mm 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. 2, 1000 mm Diameter 1000 mm Stroke 1000 mm Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line No. and size 1000 mm How driven Electric driven

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 1000 mm Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1000 mm

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 1000 mm In pump room 1000 mm

In holds, &c. 1000 mm Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1000 mm

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 on chub Yes Are they fitted with valves or cocks Yes Are they fixed sufficiently 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 Yes 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 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 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 Yes 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. 2 No. of stages 2 diameters 8 1/4 x 2 1/2 stroke 7 driven by M.A.N. aux engine

Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 3 1/4 x 1 1/2 stroke 2 1/2 driven by Diesel engine

Small Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 2 1/4 x 1 1/2 stroke 2 driven by Diesel engine

What provision is made for first charging the air receivers Aux engine hand started

Scavenging Air Pumps, No. 1 diameter 1000 mm stroke 1000 mm driven by Diesel engine

Auxiliary Engines crank shafts, diameter as per Rule 140 mm No. 5 1000 mm stroke 1000 mm driven by Diesel engine

Have the auxiliary engines been constructed under special survey Yes Is a report sent herewith Yes

002269-002278-0176

AIR RECEIVERS:—Have they been made under survey ☒ State No. of report or certificate *Adam 12243*
Is each receiver, which can be isolated, fitted with a safety valve as per Rule ☒
Can the internal surfaces of the receivers be examined and cleaned ☒ Is a drain fitted at the lowest part of each receiver ☒
Injection Air Receivers, No. *3* Cubic capacity of each *2.1100+1.1000* Internal diameter *740+405* thickness *16mm+10mm*
Seamless, welded or riveted longitudinal joint *welded+examined* Material *Stl steel* Range of tensile strength *41.47/66* Working pressure *20kg/cm²*
Starting Air Receivers, No. *3* Total cubic capacity *2.1100+1.1000* Internal diameter *740+405* thickness *16mm+10mm*
Seamless, welded or riveted longitudinal joint *welded+examined* Material *Stl steel* Range of tensile strength *41.47/66* Working pressure *20kg/cm²*
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 *4-8-51* Receivers *10-7-51-8-1-51* Separate fuel tanks *12-12-51*
(If not, state date of approval)
Donkey boilers *10-11-51* General pumping arrangements *10-11-51* Pumping arrangements in machinery space *12-11-51*
Oil fuel burning arrangements *10-11-51*
Have Torsional Vibration characteristics been approved ☒ Date of approval *21-7-52* Eng letter *1-8-52*

SPARE GEAR.

Has the spare gear required by the Rules been supplied ☒
State the principal additional spare gear supplied *2 Bronze propellers*

N.V. WERF GUSTO

The foregoing is a correct description, *W. F. SMULDERS*

		Manufacturer.																	
Dates of Survey while building		During progress of work in shops - -																	
		35	15	16	17	18	19	10	11	12	13	14	15						
		During erection on board vessel - -																	
		1-3-4-10	16	12	17-23	19-20-27	12	3-18	10-52										
Total No. of visits.		35 + 14																	
Dates of examination of principal parts—Cylinders.		10-4-51			7-10-51			Covers 8-11-51			Pistons 29-11-51			Rods 29-11-51			Connecting rods 10-11-51		
Crank shaft.		14-9-51			Flywheel shaft ✓			Thrust shaft 4-17-23			Intermediate shafts 4-17-23			Tube shaft ✓					
Screw shafts 4-52		Propeller 4-52			Stern tube 1-3-52			Engine seatings 12-17-23			Engine holding down bolts 16-17-52								
Completion of fitting sea connections.		3-52			Completion of pumping arrangements. <td colspan="3">10-52</td> <td colspan="3">Engines tried under working conditions<td colspan="3">10-52</td></td>			10-52			Engines tried under working conditions <td colspan="3">10-52</td>			10-52					
Crank shaft, material.		Stl steel			Identification mark. <td colspan="3">Flywheel shaft, material.<td colspan="3">Identification mark.<td colspan="3"></td></td></td>			Flywheel shaft, material. <td colspan="3">Identification mark.<td colspan="3"></td></td>			Identification mark. <td colspan="3"></td>								
Thrust shaft, material.		Stl steel			Identification mark. <td colspan="3">Intermediate shafts, material.<td colspan="3">Stl steel</td><td colspan="3">Identification mark.</td></td>			Intermediate shafts, material. <td colspan="3">Stl steel</td> <td colspan="3">Identification mark.</td>			Stl steel			Identification mark.					
Tube shaft, material.		✓			Identification mark. <td colspan="3">Screw shaft, material.<td colspan="3">Stl steel</td><td colspan="3">Identification mark.</td></td>			Screw shaft, material. <td colspan="3">Stl steel</td> <td colspan="3">Identification mark.</td>			Stl steel			Identification mark.					
Identification marks on air receivers.		MAIN: 1-40/12-40/23 TEST 40.5 kg W.P. 30 kg AUX: 1-100 " " " " " " " "																	

Welded receivers, state Makers' Name *Stl J. K. Smith*
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 ☒
Description of fire extinguishing apparatus fitted *4 ft 2 gallon fire foam + 2 portable CO₂ + connection with fire hose and nozzle*
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 ☒
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 *Stl Pungai*

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

The machinery of this vessel has been made and fitted in accordance with the Society's Rules. Secretary's letters and approved plans. Materials tested as required and workmanship found good. Upon completion the machinery has been tried under full working conditions during a trial trip on the River Hooz when all was found to be in a good working and manoeuvring condition. A notice board stating "Pumping engine not to be operated continuously below 177 rev./min. has been fitted at the control station and the tachometer has been marked and accordingly. I am of opinion that this machinery merits the Approval of the Committee to be recorded with the Record of + L.M.C. 10-52 Oil Engines O.G. in the Society's Register Book.

The amount of Entry Fee *Stl J. K. Smith 1/11.00*
Fitting fee this Gusto *4/556.00*
Special *20/6-52*
Fitting fee sandpump *4/126.00*
Donkey Boiler Fee *4/126.00*
When received *1/8 1952*
Travelling Expenses (if any) *Stl J. K. Smith 3/350*
Gusto *4/355.00*
When received *1/8 1952*
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUES. 20 JAN 1953*

Assigned *+ L.M.C. 10,52 Oil Eng.*

O.G. (with torsional endorsement)