

REPORT ON OIL ENGINE MACHINERY

No. 18909

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No. in Reg. Book Survey held at Amsterdam Date, First Survey 28th April Last Survey 21st November 1952 Number of Visits 9

Single on the Twin Triple Quadruple Screw vessel **"BEKAKA"** Tons Gross Net

Built at **Amsterdam** By whom built **Werk. Boot** Yard No. **1427** When built **1953**

Engines made at **Amsterdam** By whom made **Werkspoor N.V.** Engine No. **1462** When made **1952**

Donkey Boilers made at By whom made Boiler No. When made

Brake Horse Power Maximum Service **430** Owners **Republic Indonesia** Port belonging to

M.N. as per Rule **86** Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended **Deep 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/cm²** Diameter of cylinders **270 mm** Length of stroke **500 mm** No. of cylinders **6** No. of cranks **6**

Mean Indicated Pressure **7.5 kg/cm²** 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) **320 mm** Is there a bearing between each crank **Yes** Revolutions per minute Maximum Service **375**

Flywheel dia. **1120 mm** Weight **1250 kg** Moment of inertia of flywheel (lbs. in² or Kg.cm²) Means of ignition **Compn.** Kind of fuel used **Diesel**

Crank Shaft, Solid forged Semi built All built dia. of journals as per Rule as fitted **200 mm** Crank pin dia. **200 mm** Crank webs Mid. length breadth **340 mm** Thickness parallel to axis Mid. length thickness **82 mm** Thickness around eyehole

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule as fitted **145 mm**

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as per Rule as fitted 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

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

Propeller, dia. Pitch No. of blades Material whether moveable Total developed surface sq. feet

Moment of inertia of propeller including entrained water (lbs. in² or Kg.cm²) 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 **Injection** Thickness of cylinder liners **21 mm** Are the cylinders fitted with safety valves **Yes** Are the exhaust pipes and silencers water cooled

Are the exhaust pipes and silencers water cooled or lagged with non-conducting material **Water** 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 Main Type Cap 18 T/h** Working F.W. by **Main Eng.**

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 Main Type Cap 18 T/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 **120 T Type Cap 4.8 T/h****

Are two independent means arranged for circulating water through the Oil Cooler Branch Bilge Suctions In pump room

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

How are they protected

That pipes pass through the bunkers Have they been tested as per Rule

That pipes pass through the deep tanks

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

On 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 **150/120 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

Revolving Air Pumps or Blowers, No. How driven Engine Nos.

Auxiliary Engines Have they been made under survey Position of each in engine room Makers name Report No.



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AIR RECEIVERS:—Have they been made under survey... *Yes* State No. of report or certificate. *R.P.C. 2487/4046*
 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... *302 mm* thickness... *9.5 mm*
 Seamless, welded or riveted longitudinal joint... *Stainless* Material... *SM Steel* Range of tensile strength... *34.2-47.7 kg/cm²* Working pressure... *30 atm*
33.1-40 kg/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... *13-3-53* Receivers... *13-3-53* Separate fuel tanks...
 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...

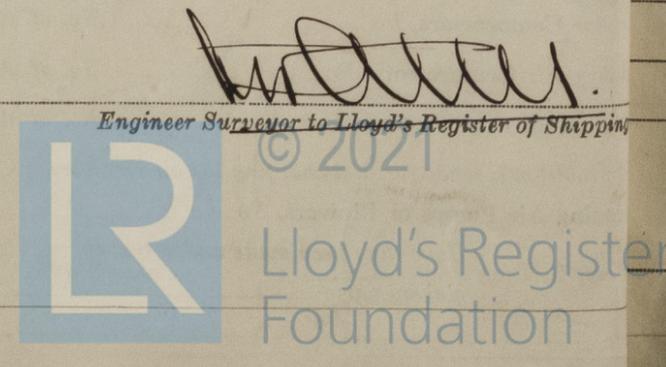
The foregoing is a correct description,
WERKSPOR N.V. Manufacturer.
 Dates of Survey while building: During progress of work in shops... *1952: 28/4-7/5-17/5-9/6-11/6-23/6-7/11-19/11-2/11*
 During erection on board vessel...
 Total No. of visits... *9*

Dates of examination of principal parts: Cylinders *28/4-52* Covers *17/5-52* Pistons *9/6-52* Rods... Connecting rods *19/2-52*
 Crank shaft... *9-6-52* 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... *19-11-52*
 Crank shaft, material... *SM Steel* Identification mark... *Lloyds no. 16945* Flywheel shaft, material... Identification mark...
 Thrust shaft, material... *SM 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 14/1 Lloyds Test T.P. to atm. W.P. 30 atm. H.P. 18.2-52 - No 40/1 Lloyds Test T.P. to atm. W.P. 30 H.P. 9-7-52*

Welded receivers, state Makers' Name... *Messrs Rheinische Röhrenwerke AG of Düsseldorf - Rheinfeld*
 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 plans, Society Rules and Secretary's letter. All materials have been tested as required and the workmanship found good. The engine has been tried on maker's test bed in 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 the engine has been shipped to Heiden (Amsterdam District).
 Copy certificates of crankshaft, Thrust shaft and air receivers attached hereto.*

The amount of Entry Fee... *£500*
 Special... *£* When applied for... *20-6-1953*
 Donkey Boiler Fee... *£* When received... *19*
 Travelling Expenses (if any)... *£10*
 Committee's Minute... *THURSDAY 26 NOV 1953*
 Assigned... *See Rpt. 46*



Certificates (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.