No. 18562

4b.

REPORT ON OIL ENGINE MACHINERY.

Received at London Office 19 NOV 1952

Date of writing Report 10-11 1952 When handed in at Local Office 19 Port of Amsterdam

Survey held at Amsterdam Date, First Survey 23-4-51 Last Survey 24-8 1952 Number of Visits 18.

M.V. "BURDJAMHAL" on the Twin Screw vessel Tons Gross. Net.

Built at Zaltbommel By whom built "Nieuwe de Waal" Yard No. 642 When built 1952

Engines made at Amsterdam By whom made Werkspoor Engine No. 1435 1439 When made 1952

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

Brake Horse Power 2 x 580 Owners Republik Indonesia Port belonging to Djakarta

N. Power as per Rule 2 x 116 Is Refrigerating Machinery fitted for cargo purposes – Is Electric Light fitted Yes

Trade for which vessel is intended Seagoing

ENGINES, &c. – Type of Engines TMAS 278. 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 52 KG/cm² Diameter of cylinders 270 m/m Length of stroke 500 m/m No. of cylinders 8 No. of cranks 8

Mean Indicated Pressure 7.5 KG/cm² Ahead Firing Order in Cylinders 1-4-7-6-8-5-2-3 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 320 m/m Is there a bearing between each crank Yes Revolutions per minute 375

Flywheel dia. 1120 m/m Weight 1250 KG Moment of inertia of flywheel (lbs. in² or Kg.cm²) 25.3 x 10⁶ Means of ignition Compr. Kind of fuel used Diesel

Crank Shaft, Solid forged, dia. of journals as per Rule 200 m/m as fitted Crank pin dia. 200 m/m Crank webs Mid. length breadth 340 m/m Mid. length thickness 82.7 shrunk Thickness parallel to axis Thickness around eyehole

Flywheel Shaft, diameter as per Rule as fitted – Intermediate Shafts, diameter as per Rule 120 m/m as fitted Thrust Shaft, diameter at collars as fitted 215 m/m as per Rule

Tube Shaft, diameter as per Rule as fitted – Screw Shaft, diameter as per Rule as fitted 135 m/m Is the screw shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule as fitted 12.5 m/m Thickness between bushes as per Rule as fitted 10 m/m 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 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 – 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 – 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 (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 when declutched Yes Means of lubrication forced Thickness of cylinder liners 22 m/m Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Cooled Cooling Water Pumps, No. 1 each 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. 2 Diameter 130 m/m Stroke 75 m/m Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line No. and size 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 size – Power Driven Lubricating Oil Pumps, including spare pump, No. and size one each main eng. Rotating 4.5 ton/h

Are two independent means arranged for circulating water through the Oil Cooler – Suctions, connected to both main bilge pumps and auxiliary bilge pumps, No. and size:—In machinery spaces In pump room In holds, &c.

Independent Power Pump Direct 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 suctions 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 each eng. No. of stages 2 diameters 100/120 m/m stroke 90 m/m driven by main engines

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

Scavenging Air Pumps, No. diameter stroke driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted No. Position

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

JS 20/10/53

Sheffield 2964
C. 95
C. 98

AIR RECEIVERS:—*Have they been made under survey* Yes *State No. of report or certificate* " Small Sheffield

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.* — *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.* 3. *Total cubic capacity* 1000 L. *Internal diameter* 496 mm *thickness* 9.5 mm

Seamless, welded or riveted longitudinal joint Seamless *Material* S.M. Steel *Range of tensile strength* 61-69% *Working pressure* by Rules / Actual 30

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* 28-7-52 *(If not, state date of approval)* *Receivers* 28-7-52. *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 of approval* 28-7-1952.

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied

WERKSPOOR N.V.
[signature]
The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
- *During progress of work in shops* 1951 24/4 30/4 17/5 15/6 26/7 30/8 18/9 28/9 15/10. 1952 18/2 15/3 31/3 5/4 25/6 23/8 29/8
- *During erection on board vessel*
- *Total No. of visits* 16.

Dates of examination of principal parts—*Cylinders* 15/6 51 26/6 51 *Covers* 17/5 51 15/6 51 *Pistons* 30/8 51 24/10 51 *Rods* *Connecting rods* 15/6 51

Crank shaft 15/6 51 24/4 51 *Flywheel shaft* *Thrust shaft* 15/6 51 *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* Lloyd's No 13690 KK 9-6-51 / Lloyd's No 13035 KK 30-3-51 *Flywheel shaft, material* *Identification mark*

Thrust shaft, material S.M. Steel *Identification mark* Lloyd's No 13501 KK 15-5-51 *Intermediate shafts, material* S.M. Steel *Identification marks* Lloyd's No

Tube shaft, material *Identification mark* Lloyd's No 13750 KK 15-6-51 *Screw shaft, material* S.M. Steel *Identification mark* Lloyd's No 17 KK 29-8

Identification marks on air receivers Lloyd's Nos 006874 - 864 - 898 R.R. 17-5-49.

Welded receivers, state Makers' Name

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

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo no *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 Yes *If so, state name of vessel* Yard No 927 & Verschure 185

General Remarks (State quality of workmanship, opinions as to class, &c. These engines have been built under Special Survey in accordance with approved plans, Society's Rules and Secretarial letters. All materials have been tested as required and the workmanship found good.

The engines have been tested under full load condition on makers testbed and found working satisfactorily.

In my opinion the vessel for which these engines are intended will be eligible for the notation + LMC. with date when fitted and examined on board.

Copy certificates of crankshafts, thrustshafts, tailshafts, intermediate shafts and starting air vessels attached.

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

The amount of Entry Fee	1/2 x 3/4 x 116 x 5.60 =	f 520.-
Special	£	:
Donkey Boiler Fee... ...	£	:
Travelling Expenses (if any)	£	f 30.-

When applied for 14-11 1952

When received 19

[signature]
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute THURSDAY 29 OCT 1953

Assigned See Rpt. 4a.