

REPORT ON OIL ENGINE MACHINERY.

No. 9820.

of writing Report 12-9-1953 When handed in at Local Office 14-9-1953 Port of SINGAPORE
 in Survey held at Singapore Date, First Survey 18-8-53 Last Survey 8-9-1953
 Book 707 on the Twin Screw vessel T.S.M.V. "MASSAU" Number of Visits 14

at Rochester N.Y. By whom built Odenbach S. B. Co. Yard No. When built 1944
 Lines made at Rochester By whom made Clark Bros. Engine No. When made 1944
 Key Boilers made at By whom made Boiler No. When made
 Net Horse Power 350 BHP / ENG Owners Ned Kiew Guinea Petroleum Trade Port belonging to The Hague
 Power as per Rule 140 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 for which vessel is intended Carriage of Blue Metal Ore between Keana + Sydney N.S.W. Australia

ENGINES, &c. Type of Engines DIRECT REVERSING - SOLID INJECTION TRUNK PISTON 2 or 4 stroke cycle Two Single or double acting Single
 Maximum pressure in cylinders 800 lbs./sq. in. Diameter of cylinders 12.5" Length of stroke 16" No. of cylinders 4 No. of cranks 4
 Indicated Pressure 95 lbs. sq. in. Ahead Firing Order in Cylinders 1, 3, 2, 4 Span of bearings, adjacent to the crank, measured
 inner edge to inner edge 17" Is there a bearing between each crank Yes Revolutions per minute 300
 Wheel dia 38 1/2" Weight 2350 lbs. Moment of inertia of flywheel (lbs. in.² or Kg. cm.²) Means of ignition Compressor Kind of fuel used Diesel
 Crank pin dia 8" Crank webs Mid. length breadth 11" Thickness parallel to axis
 Mid. length thickness 5 3/6" shrunk Thickness around eye hole

Wheel Shaft, diameter as per Rule 7 1/2" Intermediate Shafts, diameter as fitted Thrust Shaft, diameter at collars as fitted
 Shaft, diameter as fitted Nil Screw Shaft, diameter as fitted 5 3/4" Is the shaft fitted with a continuous liner Yes 6 2/32
 Liners, thickness in way of bushes as per Rule 1 5/32" Thickness between bushes as per Rule 23/64 Is the after end of the liner made watertight in the
 after boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner
 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-
 sive If two liners are fitted, is the shaft lapped or protected between the liners No Is an approved Oil Gland or other appliance fitted at the after
 tube shaft If so, state type Length of bearing in Stern Bush next to and supporting propeller 2' 0"

Propeller, dia 62" Pitch 62" No. of blades 3 Material M.H. Bronze whether moveable No Total developed surface 1342 sq. feet
 Moment of inertia of propeller (lbs. in.² or Kg. cm.²) 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. Governed at
 all speeds Means of
 caution forced Thickness of cylinder liners 7/8" Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled
 lined with non-conducting material Yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned
 to the engine Cooling Water Pumps, No. Two Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Pumps worked from the Main Engines, No. Nil Diameter Stroke Can one be overhauled while the other is at work
 Pumps connected to the Main Bilge Line No. and size 1-4" dia x 4 1/2" st 2HP recip - 1 cut 223" dia - 5 HP. - 1 cut 223" dia - 20 HP.
 How driven electrically
 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
 Power Driven Lubricating Oil Pumps, including spare pump, No. and size
 No independent means arranged for circulating water through the Oil Cooler 2-1 from ME Suctions, connected to both main bilge pumps and auxiliary
 pumps, No. and size:—In machinery spaces 2 @ 3" (DIRECT) 2 @ 2" In pump room
 holds, &c. No 1 Hold 2 @ 2" ; No 2 Hold 2 @ 2" ; No 3 Hold 2 @ 2 1/2"

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 2 @ 3"
 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
 All Sea Connections fitted direct on the skin of the Ship Yes Are they fitted with valves or cocks Valves Are they fixed
 entirely 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
 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
 pipes pass through the bunkers How are they protected
 pipes pass through the deep tanks Have they been tested as per Rule

All pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 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
 or from one compartment to another Yes Is the shaft tunnel watertight Is it fitted with a watertight door worked from
 Good vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Air Compressors, No. ONE No. of stages 2 diameters 5 1/2 / 3 1/8" stroke 3 1/2" driven by electric motor
 Auxiliary Air Compressors, No. TWO No. of stages 2 diameters stroke driven by MAIN ENG.
 Auxiliary Air Compressors, No. No. of stages diameters stroke driven by
 Provision is made for first charging the air receivers Generators started by Batteries making full power available
 Charging Air Pumps, No. ONE each Engine diameter 22 1/2" stroke 11 1/2" driven by MAIN ENGINE
 Auxiliary Engines crank shafts, diameter as per Rule 4 1/2" No. 2 Position Engine room forward
 Have auxiliary engines been constructed under special survey Is a report sent herewith Yes

EWK
25/9/53

003687-003697-0121



Register
Foundation

AIR RECEIVERS:—Have they been made under survey. *Yes.* State No. of report or certificate. *Yes.*
 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. *No.* Is a drain fitted at the lowest part of each receiver. *Yes.*
 Injection Air Receivers, No. *NIL* Cubic capacity of each. *✓* Internal diameter. *✓* thickness. *✓*
 Seamless, welded or riveted longitudinal joint. *✓* Material. *✓* Range of tensile strength. *✓* Working pressure by Rules. *✓*
 Starting Air Receivers, No. *TWO* Total cubic capacity. *approx 102 cu ft* Internal diameter. *29 1/4"* thickness. *3/8"* Actual. *✓*
 Seamless, welded or riveted longitudinal joint. *welded* Material. *steel* Range of tensile strength. Working pressure Actual. *250 lb*

IS A DONKEY BOILER FITTED *No.* If so, is a report now forwarded. *✓*
 Is the donkey boiler intended to be used for domestic purposes only. *✓*
 Are approved plans forwarded herewith for shafting. *see London letter 12-8-53.* Receivers. *✓* Separate fuel tanks. *✓*

PLANS. (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. *No.* Date of approval. *✓*

SPARE GEAR.
 Has the spare gear required by the Rules been supplied. *to be examined*
 State the principal additional spare gear supplied. *ditto*

The foregoing is a correct description, Manufacturer.

Dates of Survey while building
 During progress of work in shops - -
 During erection on board vessel - -
 Total No. of visits
 Dates of examination of principal parts—Cylinders. Covers. Pistons. Rods. Connecting rods.
 Crank shaft. Flywheel shaft. Thrust shaft. 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. Identification mark. Flywheel shaft, material. Identification mark.
 Thrust shaft, material. Identification mark. Intermediate shafts, material. Identification mark.
 Tube shaft, material. Identification mark. Screw shaft, material. *steel* Identification mark. *P. AES 8888 20-12-50 S. No 15447*

Identification marks on air receivers. *STARTING No 435 - AB WP 250; HYDR TEST 500 - DATE 3-16-44 J.T.G.*
No 456 - AB WP 250. HYDR TEST 500 - DATE 3-24-44 J.T.G.
 ON BOTH RECEIVERS - ST 382 - HT 512 - TS 55000 - TP 500 - SWP 250
 Welded receivers, state Makers' Name. *BUFFALO TANK CORP*

Is the flash point of the oil to be used over 150°F. *Yes*
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with. *Yes*
 Description of fire extinguishing apparatus fitted. *to be completed*
 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. *✓* If so, state name of vessel.

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery of this vessel has been opened & examined so far as required for verification of condition & particulars for compiling a First Entry report and in accordance with rule requirements for vessels not built under survey and the Secretary's letters.
The quality of workmanship is good
In my opinion the machinery of this vessel is eligible to have the records of L.M.C (with date) and T.S.C. (with date) and all requirements for classification have been completed

The amount of Entry Fee ... £ : :
 Special ... £ : :
 Donkey Boiler Fee... £ : :
 Travelling Expenses (if any) £ : :
 When applied for ... 19
 When received ... 19
 R. J. Suran
 Engineer Surveyor to Lloyd's Register of Ships

Committee's Minute
 Assigned
 TUESDAY 29 SEP 1953
 See minute on hull
 J.E. rpt.
 Lloyd's Register Foundation