Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 7323

Received at London Office 27 MAY 1931

Date of writing Report 23-4-1931 When handed in at Local Office 27-4-1931 Port of Kobe

No. in Reg. Book. Survey held at Jama Date, First Survey 12-4-30 Last Survey 25-3-1931. Number of Visits

on the Single / ~~Twin~~ / ~~Triple~~ / ~~Quadruple~~ Screw vessel "SHOHEI MARU" Tons Gross 7256. Net

Built at Jama By whom built Mitsui Bussan Kaisha Yard No. 180 When built March '31

Engines made at Jama. By whom made Mitsui Bussan Kaisha Engine No. 180 When made -"-

Donkey Boilers made at Jama By whom made Mitsui Bussan Kaisha Boiler No. 180 When made -"-

Brake Horse Power 3300 BHP. Owners Shimatani Kisen Kab. Kaisha Port belonging to Kobe.

Nom. Horse Power as per Rule ~~490~~ 489 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

Trade for which vessel is intended Trans Pacific Liner. 298 59/16

OIL ENGINES, &c.—Type of Engines Burmeister & Wain 67A-ST-150 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 555 lbs/sq.in Diameter of cylinders 710 m/m Length of stroke 1500 m/m No. of cylinders 6 No. of cranks 6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1004 m/m Is there a bearing between each crank Yes.

Revolutions per minute 115 Flywheel dia. ✓ Weight ✓ Means of ignition due to Compression Kind of fuel used Heavy Oil Fuel.

Crank Shaft, dia. of journals as per Rule 476 m/m with 115 m/m hole as fitted 476 m/m ✓ Crank pin dia. 476 m/m with 158 hole. Crank Webs Mid. length breadth 770 m/m M.d. length thickness 290 m/m. shrunk Thickness parallel to axis 310 m/m. Thickness around eyehole 217·5 m/m.

Flywheel Shaft, diameter as per Rule See as fitted Thrust shaft Intermediate Shafts, diameter as per Rule 12·83" as fitted 13½" ✓ Thrust Shaft, diameter at collars as per Rule as fitted 14½" ✓

Tube Shaft, diameter as per Rule as fitted ✓ Screw Shaft, diameter as per Rule 14·1" as fitted 14¾" ✓ Is the ~~tube~~ / screw shaft fitted with a continuous liner Yes.

Bronze Liners, thickness in way of bushes as per Rule ·7296" as fitted 13/16" ✓ Thickness between bushes as per rule ·547" as fitted ⅝" 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 Continuous 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 or other appliance fitted at the after end of the tube shaft No. If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 5'-0" ✓

Propeller, dia. 15'-3½" ✓ Pitch 11'-6 1/16" No. of blades 4 Material Bronze whether Moveable Solid Total Developed Surface 80 sq. feet

Method of reversing Engines Direct reversible Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication forced Thickness of cylinder liners 53·5 m/m 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 ✓

Cooling Water Pumps, No. 2 @ 175 tons/hr. ✓ 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 Diameter 127 m/m ✓ Stroke 228 m/m. ✓ Can one be overhauled while the other is at work Yes. ✓

Pumps connected to the Main Bilge Line { No. and Size 1 @ 150 tons/hr; 2 @ 20 tons/hr. ✓ / How driven Electric motor. ✓

Ballast Pumps, No. and size 1 @ 150 tons/hr. Lubricating Oil Pumps, including Spare Pump, No. and size 2 @ 60 tons/hr. ✓

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 1 @ 6", 1 @ 5½", 3 @ 3" bilge well, 2 @ 3" Coff. 1 @ 3" thrust recess. Holds, &c. Fore peak 1 @ 1½" hand pump, No. 1 2 @ 3", No. 2, 2 @ 3¾" Deep tank, 1 @ 3", No. 3, 2 @ 3¾", No. 4, 2 @ 3", Tunnel well 1 @ 3½" Aft peak 1 @ 1½" hand pump.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 6", 1 @ 3½" or 5½"

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces fed 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 Yes Are they fitted with Valves or Cocks Both.

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.

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 Yes worked from Upper platform.

In 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. 3 No. of stages 2 Diameters HP 280; LP 320 Stroke 170 Driven by Aux. diesel Engines.

Auxiliary Air Compressors, No. ✓ No. of stages Diameters HP 1 5/16" LP 2½" Stroke 5" Driven by

Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters Stroke Driven by Hand driven.

Scavenging ~~Air Pumps~~ + Supercharging blower, No. 1. Capacity 300 M³/min ~~Diameter~~ pressure 500 m/m water column ~~Stroke~~ Driven by motor ✓

Auxiliary Engines crank shafts, diameter as per Rule as fitted

AIR RECEIVERS:—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 Yes What means are provided for cleaning their inner surfaces Man hole for L.P. rec. Hand hole

Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. ✓ Cubic capacity of each Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength ✓ Working pressure by Rules ✓

Starting Air Receivers, No. Two / one Total cubic capacity 918 cu.ft. / 250 litre. Internal diameter 5'-11" / 380 m/m thickness 1" / 11 m/m ✓

Seamless, lap welded or riveted longitudinal joint Triple riveted / Solid Material Steel Range of tensile strength 28 tons/sq.in. to 35 " " Working pressure by Rules 360 lbs/sq.in. / 427 " "

007465-007473-0154

IS A DONKEY BOILER FITTED? Yes If so, is a report now forwarded? Yes.

PLANS. Are approved plans forwarded herewith for Shafting 7-11-29 Receivers 29-1-30 Separate Tanks 22-1-31.
(If not, state date of approval)

Donkey Boilers 7-11-29. General Pumping Arrangements 19-4-30 Oil Fuel Burning Arrangements

SPARE GEAR A copy of spare gear list attached hereto.
As per the Rules, checked and found satisfactory.

The foregoing is a correct description,

S. Kikai

Manufacturer.

Dates of Survey while building — During progress of work in shops: 1930 Apr. 12. 16. 17. 21. 28. May 8. 12. 26. 27. 30. June 7. 9. 28. 30. July 4. 8. 10. 15. 21. 22. 24. Aug. 4. 14. 19. 27. Sept. 6. 8. 10. 13. 22. Oct. 1. 3. 6. 13. 14. 20, 21, 23. 24. 28. Nov. 14. 25. Dec. 2. 9. 10. 12. 16. 1931. Jan. 14. 19. 21. 30. Feb. 2. 6. 16. 26. Mar. 6. 7. 9. 16. 17. 18, 20, 25.

During erection on board vessel:

Total No. of visits 66.

Dates of Examination of principal parts—Cylinders 30-5-30 Covers 28-2-30 to 8-5-30 Pistons Rods 6-12-29 to 21-2-30 (Muroran) Connecting rods 7-12-29 28-2-30 (Muroran)

Crank shaft 25-10-29 to 5-2-30 (at Praque) Flywheel shaft or Thrust shaft 25-4-30 to 30-6-30 (Kobe) Intermediate shafts 17-4-30 to 30-6-30 (Kobe) Tube shaft ✓

Screw shaft 31-3-30 to 30-6-30 (Kobe) Propeller 11-11-30 to 15-1-31. Stern tube 2-12-30 Engine seatings 23-10-30 Engines holding down bolts 14-2-31.

Completion of fitting sea connections 15-1-30 Completion of pumping arrangements 12-3-31 Engines tried under working conditions 17-3-31

Crank shaft, Material O.H. Forged Steel Identification Mark LR No. 8316 PK 5-2-30 8317 -"- -"- Flywheel shaft, Material See Thrust shaft Identification Mark

Thrust shaft, Material O.H. Forged Steel Identification Mark LR No. 2565 ADM. 30-6-30 Intermediate shafts, Material O.H. Forged Steel Identification Marks See below.

Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material O.H. Forged Steel Identification Mark LR. No. 2567 ADM. 30-6-3

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.

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo Yes If so, have the requirements of the Rules been complied with Yes.

Is this machinery duplicate of a previous case No. If so, state name of vessel ✓

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

2 Air Receivers:-

LLOYD'S TEST
39 KG/CM²
W.T. 25 KG/CM²
H.D.B. R 24-7-30

Identification Marks:-

5 Intermediate Shafts:- LLOYD'S No. 2566. A.D.M. 30-6-30, with test marks:- D3639B1, 3668A 3668B1, 3671B1 + 3634A1.

6 Piston Rods:- LLOYD'S Nos. 657, 658, 659, 660, 661 + 662. Z.S. 21-2-30.

6 Connecting Rods:- LLOYD'S Nos. 667, 668, 669, 670, 671 + 672. Z.S. 28-2-30.

The machinery has been constructed under Special Survey in accordance with the Rules and approved plans; the material and workmanship are good and on completion the machinery has been efficiently installed in the vessel and tested under full working conditions, found to be efficient and eligible in my opinion to have record of ✠ L.M.C 3.31, Oil engine, T.S. 3.31 and one D.B. 100 lbs.

H. D. Buchanan + self.

T. Kishigami

Engineer Surveyor ~~to Lloyd's Register~~ of Shipping.

The amount of Entry Fee ...	¥ 50.00	When applied for,	1/4/1931
Special	¥ 1478.00		
Donkey Boiler Fee ...	£	When received,	1/5/1931
air Receiver	¥ 126.00		
Travelling Expenses (if any)	£		

Committee's Minute FRI. 12 JUN 1931

Assigned ✠ L.M.C. 3.31 D.B. 100 lb. C.L. Oil Eng.

CERTIFICATE WRITTEN

Certificate (if required) to be sent to

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