Rpt. 4b.

AUXILIARY.

REPORT ON OIL ENGINE MACHINERY.

No. 6533.

Date of writing Report ..... 19.... When handed in at Local Office ..... 19.... Received at London Office 18 JUN 1929

No. in Reg. Book. Survey held at KOBE. Port of KOBE.

Date, First Survey 4TH AUG 1928. Last Survey 30TH MAY. 1929. Number of Visits

✓ on the Single / Twin / Triple } Screw vessels — DIESEL OIL ENGINES DESIGNATED NOS 74. 75. & 76. Tons { Gross ✓ / Net ✓

Master ✓ Built at ✓ By whom built ✓ Yard No. 456 When built ✓

AUXILIARY Engines made at KOBE By whom made MITSUBISHI ZOSEN KAISHA Engine No. { 74 / 75 / 76 } When made 1929.

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

Indicated Horse Power 3 OFF @ 350. Owners OSAKA SHOSEN KAISHA. Port belonging to ✓

N.H.P. Horse Power as per Rule ✓ Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted ✓

ENGINES, &c.—Type of Engines MITSUBISHI—VICKERS. (AIRLESS INJECTN.) 2 or 4 stroke cycle 4 Single or double acting SINGLE.

Maximum pressure in cylinders 42 Kgs. Cm² No. of cylinders 6 EACH. No. of cranks 6 Diameter of cylinders 300 m/m.

Length of stroke 450 m/m Revolutions per minute 310 Means of ignition AIR COMPRESSION. Kind of fuel used DIESEL OIL FP. ABOVE 150°

Is there a bearing between each crank YES. Span of bearings (Page 92, Section 2, par. 7 of Rules) 355 m/m.

Distance between centres of main bearings ✓ Is a flywheel fitted YES Diameter of crank shaft journals as per Rule 171 m/m / as fitted 185 m/m

Diameter of crank pins 185 m/m Breadth of crank webs as per Rule ✓ / as fitted 270 m/m Thickness of ditto as per Rule ✓ / as fitted 98 m/m

Diameter of flywheel shaft as per Rule ✓ / as fitted ✓ Diameter of tunnel shaft as per Rule ✓ / as fitted ✓ Diameter of thrust shaft as per Rule ✓ / as fitted ✓

Diameter of screw shaft as per Rule ✓ / as fitted ✓ Is the screw shaft fitted with a continuous liner the whole length of the stern tube ✓

Is the after end of the liner made watertight in the propeller boss ✓ If the liner is in more than one length are the joints burned ✓

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 liners are fitted, is the shaft lapped or protected between the liners ✓ If without liners, is the shaft arranged to run in oil ✓

Is the outer gland fitted to stern tube ✓ Length of stern bush ✓ Diameter of propeller ✓

Is the propeller ✓ No. of blades ✓ state whether moveable ✓ Total surface ✓ square feet

Means of reversing ✓ Is a governor ~~or other arrangement~~ fitted ~~to prevent racing of the engine when declutched~~ YES Thickness of cylinder liners 30 m/m.

Are the cylinders fitted with safety valves YES Means of lubrication Forced feed. 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 ✓

How many ✓ No. of cooling water pumps ✓ Is the sea suction provided with an efficient strainer which can be cleared

from the vessel ✓ No. of bilge pumps fitted to the main engines ✓ Diameter of ditto ✓ Stroke ✓

can be overhauled while the other is at work ✓ No. of auxiliary pumps connected to the main bilge lines ✓ How driven ✓

Bilge pumps ✓ No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps :—In engine room ✓

Bilge holds, etc. ✓ No. of ballast pumps ✓ How driven ✓ Sizes of pumps ✓

Is the ballast pump fitted with a direct suction from the engine room bilges ✓ State size ✓ Is a separate auxiliary pump suction fitted in

Engine Room and size ✓ Are all the bilge suction pipes fitted with roses ✓ Are the roses in Engine Room always accessible ✓

Are the sluices on Engine Room bulkheads always accessible Are all connections with the sea direct on the skin of the ship ✓

Are the valves or cocks ✓ Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates ✓

Are the discharge pipes 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 pipes, cocks, valves and pumps in connection with the machinery accessible at all times ✓ Are the bilge suction pipes, cocks and valves arranged so as to prevent any

communication between the sea and the bilges ✓ Is the screw shaft tunnel watertight ✓ Is it fitted with a watertight door ✓

Engine Room ✓ 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. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Auxiliary air compressors ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Small auxiliary air compressors ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Scavenging air pumps ✓ Diameter ✓ Stroke ✓ Driven by ✓

Diameter of auxiliary Diesel Engine crank shafts as per Rule 171 m/m / as fitted 185 m/m Are the air compressors and their coolers made so as to be easy of access ✓

RECEIVERS :—No of high pressure air receivers ✓ Internal diameter ✓ Cubic capacity of each ✓

Are they ✓ Seamless, lap welded or riveted longitudinal joint ✓ Range of tensile strength ✓

Are they ✓ working pressure by Rules ✓ No. of starting air receivers ✓ Internal diameter ✓

Cubic capacity ✓ Material ✓ Seamless, lap welded or riveted longitudinal joint ✓

Tensile strength ✓ thickness ✓ Working pressure by rules ✓ Is each receiver, which can be isolated,

fitted a safety valve as per Rule ✓ Can the internal surfaces of the receivers be examined ✓ What means are provided for cleaning their

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

IS A DONKEY BOILER FITTED? ✓ *If so, is a report now forwarded?* ✓

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS					
„ „ COVERS					
„ „ JACKETS					
„ PISTON WATER PASSAGES					
MAIN COMPRESSORS—1st STAGE					
„ 2nd „					
„ 3rd „					
AIR RECEIVERS-STARTING					
„ INJECTION					
AIR PIPES					
FUEL PIPES					
FUEL PUMPS					
SILENCER					
„ WATER JACKET					
SEPARATE FUEL TANKS					

PLANS. *Are approved plans forwarded herewith for shafting* 14TH JULY 1928. *Receivers* ✓ *Separate Tanks* ✓
(If not, state date of approval)

SPARE GEAR SEE SEPARATE LIST ATTACHED.

The foregoing is a correct description,

S. Ichikawa

Manufacturer.

Dates of Survey while building

During progress of work in shops— 1928/ AUG. 4.7.15.23.28.31.—SEPT. 8.17.19.24.—OCT. 1.4.19.20.29—NOV. 2.5.6.12.15.19.21.26.28.29.—DEC. 13.14.15.17.18.19.20.22.24.—1929—JAN. 6.8.12.14.17.19.25.—FEB. 4.8.12.13.1920.26. MAR. 6.9.11.14.22-AP

During erection on board vessel— ✓

Total No. of visits 60

Dates of Examination of principal parts—Cylinders OCT 1.29 NOV. 5.6.29. DEC. 3.14.18.17 JAN. 8.14.12 *Covers* NOV. 13.15.19 DEC. 5.8.10.22.24. *Pistons* NOV. 2.6. DEC. 8.11.19.20 JAN. 17.19. *Rods* ✓ *Connecting rods* AUG. OCT.

Crank shaft 22/5 4/7 15/6 *Thrust shaft* ✓ *Tunnel shafts* ✓ *Screw shaft* ✓ *Propeller* ✓ *Stern tube* ✓ *Engine seatings*

Engines holding down bolts ✓ *Completion of pumping arrangements* ✓ *Engines tried under working conditions* JAN 9. MAR. 9.

Completion of fitting sea connections ✓ *Stern tube* ✓ *Screw shaft and propeller* ✓

Material of crank shaft S.M. STEEL. *Identification Mark on Do.* LLOYD'S NOS 62.63.84. G.A. *Material of thrust shaft* ✓ *Identification Mark on Do.*

Material of tunnel shafts ✓ *Identification Marks on Do.* ✓ *Material of screw shafts* ✓ *Identification Marks on Do.*

Is the flash point of the oil to be used over 150° F. 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.

The engines referred to herein have been constructed under special survey & in accordance with Rules & approved plans. The materials & workmanship employed are good & the test results satisfactory.

Copies of Forging Certificates attached.

A copy of this report has been forwarded to the Surveyor at Nagasaki.

The amount of Entry Fee ...	£ — : — :	When applied for,
Special	£ 750 : — :	30th May 1929
Donkey Boiler Fee ...	£ ✓ : ✓ :	When received,
Travelling Expenses (if any)	£ 90 : — :	19

For H.D. Buchanan & self. W. K. Imber.

Engineer Surveyor to Lloyd's Register of S

Committee's Minute

Assigned

Certificate (if required) to be sent to

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