B.B

AUXILIARY ENGINE.

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY

No. 17.

Received at London Office TUE. JUN. 6 1922

Date of writing Report 26th May 1922. When handed in at Local Office 26th May 1922 Port of Winterthur

No. in Reg. Book. Survey held at Winterthur Date, First Survey 4th July 1921. Last Survey 26th May 1922.

Number of Visits

✓ on the Single / Twin / Triple } Screw vessels (See Gen Rpt No. 42.) Tons { Gross ✓ / Net ✓

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

Engines made at Winterthur By whom made Sulzer Frères S.A. Engine No. 5195 When made 1922.

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

Brake Horse Power 90. Owners ✓ Port belonging to ✓

Nom. Horse Power as per Rule 14. Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted ✓

OIL ENGINES, &c.—Type of Engines Auxiliary Diesel Engine 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 38 Ats. No. of cylinders 2 No. of cranks 2 Diameter of cylinders 310 m/m.

Length of stroke 360 m/m. Revolutions per minute 300 Means of ignition Temperature due to Compression Kind of fuel used Heavy Fuel Oil.

Is there a bearing between each crank Yes. Span of bearings (Page 92, Section 2, par. 7 of Rules) 390 m/m.

Distance between centres of main bearings 620 m/m. Is a flywheel fitted Yes. Diameter of crank shaft journals as per Rule 166 m/m. ✓ as fitted 165 m/m.

Diameter of crank pins 165 m/m. ✓ Breadth of crank webs as per Rule 221 m/m. as fitted 240 m/m ✓ Thickness of ditto as per Rule 93 m/m as fitted 98 m/m. ✓

Diameter of flywheel shaft as per Rule ✓ as fitted 185/200 m/m. ✓ 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 two liners are fitted, is the shaft lapped or protected between the liners ✓ If without liners, is the shaft arranged to run in oil ✓

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

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

Method of reversing Non-reversible Is a governor or other arrangement fitted to prevent racing of the engine ~~when declutched~~ Yes. ✓ Thickness of cylinder liners 24 m/m ✓

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

No. of cooling water pumps 1 Is the sea suction provided with an efficient strainer which can be cleared within the vessel ✓ No. of bilge pumps fitted to the main engines ✓ Diameter of ditto ✓ Stroke ✓

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

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

Bilged in 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 they 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 all 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 ✓

Locked from ✓ If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓

No. of main air compressors 1 ✓ No. of stages 3 Diameters 205/180/40 m/m Stroke 150 m/m Driven by main Shaft.

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

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

No. of scavenging air pumps — Diameter — Stroke — Driven by —

Diameter of auxiliary Diesel Engine crank shafts as per Rule as fitted Are the air compressors and their coolers made so as to be easy of access Yes.

AIR RECEIVERS :—No of high pressure (Injection) air receivers 1 Internal diameter 190 m/m Cubic capacity of each 20 Litres

Material S.M. Steel Seamless, lap welded or riveted longitudinal joint Seamless. Range of tensile strength 28 To 32 Tons per □"

Thickness 10 m/m. working pressure by Rules 96 Ats. ✓ No. of starting air receivers ✓ Internal diameter ✓

Total cubic capacity ✓ Material ✓ Seamless, lap welded or riveted longitudinal joint ✓

Range of tensile strength ✓ thickness ✓ Working pressure by rules ✓ 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 Opening 120 m/m dia at upper end. ✓ Is there a drain arrangement fitted at the lowest part of each receiver Yes.

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	25-1-22.	38 ATS	95 ATS. ✓	R	Test Satisfactory.
" " COVERS	25-1-22.	-do-	-do- ✓	R	-do-
" " JACKETS	30-1-22.	1 ATS.	3 ATS. ✓	R	-do-
" PISTON WATER PASSAGES	-	-	-	-	-
MAIN COMPRESSORS—1st STAGE	30-1-22. 1-2-22. 2-2-22	3 ATS	10 ATS. ✓	R	Test Satisfactory
" 2nd "	" " "	14.5 ATS.	35 ATS. ✓	R	-do-
" 3rd "	" " "	40 ATS.	140 ATS. ✓	R	-do-
AIR RECEIVERS-STARTING	-	-	-	-	-
" INJECTION	14-1-22	40 ATS.	140 ATS ✓	R	Test Satisfacto
AIR PIPES	6-4-22	-do-	-do- ✓	R	-do-
FUEL PIPES	-do-	-do-	-do- ✓	R	-do-
FUEL PUMPS & AIR VALVES	9-2-22	-do-	-do- ✓	R	-do-
SILENCER	26-5-22	1 ATS.	3 ATS ✓	R	-do-
" WATER JACKET	-do-	-do-	-do- ✓	-	
SEPARATE FUEL TANKS					

PLANS. *Are approved plans forwarded herewith for shafting* No. 23-4-21. *Receivers* 4-6-20 *Separate Tanks* ✓
(If not, state date of approval)

SPARE GEAR

The foregoing is a correct description,

Sulzer Frères
Société Anonyme

Manufacturer.

Dates of Survey while building

During progress of work in shops— 4-7-21, 22-7-21, 7-11-21, 2-12-21, 29-12-21, 14-1-22, 25-1-22, 26-1-22, 30-1-22, 1-2-22, 2-2-22, 4-2-22, 21-2-22, 24-2-22, 22-3-22, 6-4-22, 20-4-22, 11-5-22, 18-5-22, 26-5-22.

During erection on board vessel—

Total No. of visits 20

Dates of Examination of principal parts—Cylinders 18-5-22. *Covers* 18-5-22. *Pistons* 18-5-22 *Rods* - *Connecting rod* - *Crank shaft* 18-5-22 *Thrust shaft* ✓ *Tunnel shafts* ✓ *Screw shaft* - *Propeller* ✓ *Stern tube* ✓ *Engine seats* ✓

Engines holding down bolts ✓ *Completion of pumping arrangements* ✓ *Engines tried under working conditions* ✓

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

Material of crank shaft S.M. Steel *Identification Mark on Do.* 3846 R 4-11-21 *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. Stock Engine constructed under Spl Survey in accordance with the requirements of the Rules, the Secretary's letters and approved plans. Materials and workmanship good. Full power trials of Engine & Shops satisfactory.

Certificate (if required) to be sent to

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

The amount of Entry Fee ... £ : :
Special ... ... £ 15-0-0 : When applied for, 30th May 1922
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : : When received, 1st June 1922

Committee's Minute FRI. 20 FEB 1925

Assigned

W. S. Fallis.
Engineer Surveyor to Lloyd's Register of Shipping.

THES. 12 MAY 1925

FRI. 19 JUN 1925