

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

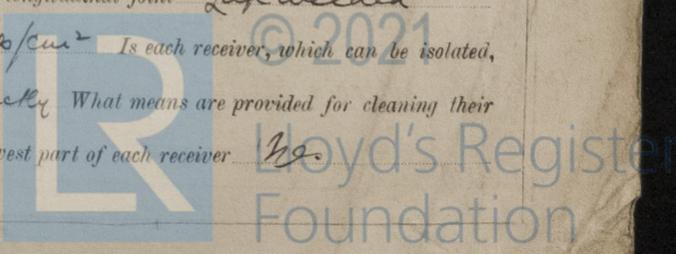
No. 6349

Date of writing Report 5th March 1926 When handed in at Local Office 11th March 1926 Port of Gothenburg Received at London Office 17 AUG 1926
No. in Survey held at Gothenburg Date, First Survey 19th October 1925 Last Survey 24th Feb 1926
Reg. Book. Number of Visits 4

on the Triple } Screw vessels Tons { Gross _____ Net _____
Master _____ Built at _____ By whom built _____ Yard No. _____ When built _____
Engines made at Lypetil By whom made Skandia - Verken AB. Engine No. 15387 When made 1926
Donkey Boilers made at _____ By whom made _____ Boiler No. _____ When made _____
Brake Horse Power 250 Owners Vancouver Pile Driving Contracting Co Port belonging to Vancouver
Nom. Horse Power as per Rule 72 Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____

OIL ENGINES, &c.—Type of Engines one Heavy Oil Engine 2 or 4 stroke cycle 2 Single or double acting Single
Maximum pressure in cylinders 20.0 kg/cm² No. of cylinders 4 No. of cranks 4 Diameter of cylinders 360 mm (14 3/16")
Length of stroke 400 mm (15 7/8") Revolutions per minute 300 Means of ignition Hot bulbs Kind of fuel used Crude oil
Is there a bearing between each crank Yes Span of bearings (Page 106, Section 2, par. 7 of Rules) 478 mm. *Means for electric heating of ignition plugs is provided for starting of engine*
Distance between centres of main bearings 700 mm Is a flywheel fitted Yes Diameter of crank shaft journals as per Rule 149 mm.
Diameter of crank pins 168 mm. Breadth of crank webs as per Rule 198 mm. Thickness of ditto as per Rule 84 mm.
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 115 mm
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 Special reversing gear Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Thickness of cylinder liners _____
Are the cylinders fitted with safety valves The after manoeuvring cylinder only Means of lubrication Forced lubrication Are the exhaust pipes and silencers water cooled or lagged with non-conducting material water cooled 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 (fitted to the main engine) 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 1 Diameter of ditto 120 mm Stroke 60 mm
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 suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room _____
and 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 _____
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 _____
No. of main air compressors None No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
No. of auxiliary air compressors None No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
No. of small auxiliary air compressors 1 No. of stages 1 Diameters 70 mm Stroke 120 mm Driven by Separate oil Engine
No. of scavenging air pumps None one cyl. Scavenged by compressed air in crank house 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 _____

AIR RECEIVERS:—No. of high pressure air receivers None Internal diameter _____ Cubic capacity of each _____
material ✓ Seamless, lap welded or riveted longitudinal joint ✓ Range of tensile strength _____
thickness _____ working pressure by Rules _____ No. of starting air receivers 2 Internal diameter 450 mm.
Total cubic capacity 500 litres Material S.M. Steel Seamless, lap welded or riveted longitudinal joint Lap welded
Range of tensile strength 26-30 lbs. per sq. in. thickness 9 mm. Working pressure by rules 23. kg/cm² Is each receiver which can be isolated, fitted with a safety valve as per Rule No. A safety valve fitted to the aux. compressor Can the internal surfaces of the receivers be examined Yes, imperfectly What means are provided for cleaning their inner surfaces Caustic Soda & Steam 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 | 24. 2. 26 | 20 kps/cm ² | 40 kps/cm ² | Lloyd's Test 40 kps S.A. 24. 2. 26 | |
| " " COVERS | 24. 2. 26 | 20 kps/cm ² | 40 kps/cm ² | Lloyd's Test 40 kps S.A. 24. 2. 26 | |
| " " JACKETS | 24. 2. 26 | 1 " " | 5 " " | | |
| " " PISTON WATER PASSAGES | ✓ | | | | |
| MAIN COMPRESSORS—1st STAGE | ✓ | | | | |
| " " 2nd " | ✓ | | | | |
| " " 3rd " | ✓ | | | | |
| AIR RECEIVERS—STARTING | 24. 2. 26 | 20 kps/cm ² | 40 kps/cm ² | No 117-118 Lloyd's Test 40 kps W.P. 20 S.A. 24. 2. 26 | |
| " " INJECTION | ✓ | | | | |
| AIR PIPES | | | | | |
| FUEL PIPES | | | | | |
| FUEL PUMPS | | | | | |
| SILENCER | ✓ | | | | |
| " " WATER JACKET | ✓ | | | | |
| SEPARATE FUEL TANKS | 24. 2. 26 | 1.0 kps/cm ² | 5.0 kps/cm ² | R | |

PLANS. Are approved plans forwarded herewith for shafting 27.8.25 Receivers See plan attached Separate Tanks

SPARE GEAR For the main engine :- 1 cylinder cover complete, 1 piston with rings complete, 4 hot bulbs, 18 piston rings, 2 connecting rods, top end bolts & nuts, 2 connecting rod bottoms and bolts & nuts, 2 main bearing bolts & nuts, 1 set of cylinder cover studs & nuts, 1 set of coupling bolts, 1 starting air valve, 1 fuel pump complete, 4 sets fuel valves, 1 valve for the cooling water pump, 1 valve for the bilge pump, 8 ignition plugs, 20 mouthpieces for the fuel injection, 4 fuel non-return valves, 1 set air suction valves with springs, 1 fuel pipe, 1 cam sheave for the governor, 4 cam rollers for ditto, 1 spring for the reversing gear, 1 ditto for the governor. For the aux compressor, 4 hot bulbs, 4 piston rings for oil Eng, 4 ditto for the compressor, 1 set valves for the compressor, 1 fuel pump, 1 set of fuel valves, 2 ignition plugs, 2 mouthpieces for the fuel injection. The foregoing is a correct description.

(Signed) Mandia, Venkter A.B. Manufacturer.

Dates of Survey while building: During progress of work in shops - 1925 19th Oct. 1926 26 Jan. 23 + 24 Feb. During erection on board vessel - Total No. of visits 4

Dates of Examination of principal parts—Cylinders 19/10/25 24/1/26 Covers 24/1/26 Pistons 19/10/25 24/1/26 Rods ✓ Connecting rods 19/10/25 24/1/26 Crank shaft 19/10/25 24/1/26 Thrust shaft 19/10/25 Tunnel shafts Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts Completion of pumping arrangements Engines tried under working conditions in shop 23/1/26 Completion of fitting sea connections Stern tube Screw shaft and propeller Material of crank shaft S.M. Steel Identification Mark on Do. Lloyd's No 8006 B S.A. 19.10.25 Material of thrust shaft S.M. Steel Identification Mark on Do. Lloyd's No 8006 B S.A. 19.10.25 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. This machinery has been built under Special Survey and all the requirements of the Rules have been complied with.

The crank & thrust shafts as per forging reports attached. The workmanship is good. The main engine and the auxiliary compressor tried under working conditions in shop & proved to work satisfactorily. This machinery is worthy in my opinion to be classed in the Register's Book of this Society with a notation of L.M.C. with date, when it has been fitted in a classed vessel to the satisfaction of a surveyor to the Society.

| | | | |
|--------------------------------|---|---|-------------------|
| The amount of Entry Fee ... £ | : | : | When applied for, |
| Special £ | : | : | 19 |
| Donkey Boiler Fee ... £ | : | : | When received, |
| Travelling Expenses (if any) £ | : | : | 19 |

(Signed) G. Anander Engineer Surveyor to Lloyd's Register of Shipping.

TUES. 16 AUG 1927
TUES. 27 SEP 1926
FRI. 8 APR 1927



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Lloyd's Register Foundation

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

Committee's Minute

FRI. 20 AUG 1926

Assigned

See plan attached