

Rpt. 4b.

## REPORT ON OIL ENGINE MACHINERY.

No. 6349

Date of writing Report 5<sup>th</sup> March 1926 When handed in at Local Office 11<sup>th</sup> March 1926 Port of Gothenburg Received at London Office 17 AUG 1926

No. in Survey held at Gothenburg Date, First Survey 19<sup>th</sup> October/25 Last Survey 24<sup>th</sup> Feb 1926

Reg. Book. Single on the Twin } Screw vessels Triple Tons { Gross \_\_\_\_\_ Net \_\_\_\_\_

Master \_\_\_\_\_ Built at \_\_\_\_\_ By whom built \_\_\_\_\_ Yard No. \_\_\_\_\_ When built \_\_\_\_\_

Engines made at Lypetil By whom made Skandia - Verken A.B. Engine No. 5387 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/cm<sup>2</sup> No. of cylinders 4 No. of cranks 4 Diameter of cylinders 360 mm (14 1/8")

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.

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 Diameter of tunnel shaft as per Rule Diameter of thrust shaft as per Rule 115 mm.

Diameter of screw shaft as per Rule Is the screw shaft fitted with a continuous liner the whole length of the stern tube 127 mm.

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 after manoeuvring Means of lubrication Forced lubrication Are the exhaust pipes and silencers water cooled or lagged with \_\_\_\_\_

Non-conducting material water 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 cyl. scavenged by compressed air in crank house Diameter ✓ Stroke ✓ Driven by ✓

Diameter of auxiliary Diesel Engine crank shafts as per Rule 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/cm<sup>2</sup> 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 .....	22. 2. 26	20 kps/cm <sup>2</sup>	40 kps/cm <sup>2</sup>	Lloyd's Test 40 kps S.A. 22. 2. 26	
" " COVERS .....	22. 2. 26	20 kps/cm <sup>2</sup>	40 kps/cm <sup>2</sup>	Lloyd's Test 40 kps S.A. 22. 2. 26	
" " JACKETS .....	22. 2. 26	1 " "	5 " "		
" " PISTON WATER PASSAGES .....	✓				
MAIN COMPRESSORS—1st STAGE .....	✓				
" 2nd " .....	✓				
" 3rd " .....	✓				
AIR RECEIVERS—STARTING .....	22. 2. 26	20 kps/cm <sup>2</sup>	40 kps/cm <sup>2</sup>	No 117-118 Lloyd's Test 40 kps W.P. 20 S.A. 22. 2. 26	
" INJECTION .....	✓				
AIR PIPES .....					
FUEL PIPES .....					
FUEL PUMPS .....					
SILENCER .....	✓				
" WATER JACKET .....	✓				
SEPARATE FUEL TANKS .....	22. 2. 26	1.0 kps/cm <sup>2</sup>	5.0 kps/cm <sup>2</sup>	R	

PLANS. Are approved plans forwarded herewith for shafting 27.8.25  
(If not, state date of approval)

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) Skandia, Kentner 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 14

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 23/2/26

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 S  
SA 19.10.25 Material of thrust shaft S.M. Steel Identification Mark on Do. Lloyd's No 8006 S  
SA 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, &amp;c. This machinery has been built under Special Survey and all the requirements of the Rules have been complied with.

The crank &amp; thrust shafts as per forging reports attached. The workmanship is good.

The main engine and the auxiliary compressor tried under working conditions in shop &amp; proved to work satisfactorily.

This machinery is worthy in my opinion to be classed in the Left's Book of this Society with a notation of C.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

Committee's Minute

Assigned

FRI. 20 AUG 1926

TUES. 16 AUG 1927  
TUES. 21 SEP 1926  
FRI. 8 APR 1927

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



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