

# REPORT ON OIL ENGINE MACHINERY.

No. 13022

7 SEP 1933

Received at London Office

AMSTERDAM

Reporting Report 1 Sept 1933 When handed in at Local Office

Port of

Survey held at AMSTERDAM

Date, First Survey 10 January Last Survey 15 August 1933

Number of Visits 47

on the ~~XXXX~~ <sup>Single</sup> Screw vessel "ZWARTE ZEE"

Tons { Gross - Net -

at Kinderdijk By whom built L.Smit & Zoon Yard No. 872 When built 1933  
 es made at Amsterdam By whom made Werkspoor N.V. Engine No. - When made 1933  
 y Boilers made at - By whom made - Boiler No. - When made -  
 Horse Power 3000 Owners N.V.L.Smit & Co's Sleepdienst Port belonging to Rotterdam  
 Horse Power as per Rule 450 453 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted ye  
 for which vessel is intended For towing services

ENGINES, &c. Type of Engines *Werkspoor Super charged 2 or 4 stroke cycle* Single or double acting  
 in pressure in cylinders 400 lbs. Diameter of cylinders 19 1/16 500 mm Length of stroke 25 7/16 650 mm No. of cylinders 6x2 No. of cranks 6  
 bearings, adjacent to the Crank, measured from inner edge to inner edge 630 mm Is there a bearing between each crank ye  
 ons per minute 245 *Werkspoor geared 150 revs.* Means of ignition *Mechanical* Kind of fuel used *Diesel fuel*  
 Shaft, dia. of journals as per Rule *approved* Crank pin dia. 320 mm Crank Webs Mid. length breadth 560 mm Thickness parallel to axis 260%  
 as fitted 320 mm Crank pin dia. 320 mm Mid. length thickness 165 mm Thickness around eye hole  
 el Shaft, diameter as per Rule *approved* Intermediate Shafts, diameter as per Rule *approved* Thrust Shaft, diameter at collars as per Rule *approved*  
 as fitted *305 mm* as fitted *340 mm*  
 shaft, diameter as per Rule *approved* Screw Shaft, diameter as per Rule *approved* Is the tube shaft fitted with a continuous liner  
 as fitted *350 mm* as fitted *350 mm* Is the screw shaft fitted with a continuous liner

Liners, thickness in way of bushes as per Rule *approved* Thickness between bushes as per rule *approved* Is the after end of the liner made watertight in the  
 as fitted *approved* as fitted *approved*  
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner  
 er 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  
 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  
 If so, state type *Cedron's patent* Length of Bearing in Stern Bush next to and supporting propeller 1420 mm  
 ler, dia. 4100 mm Pitch 1/448 No. of blades 4 Material *Brass* whether Moveable *Solid* Total Developed Surface 42 sq. feet

of reversing Engines *air start motor* Is a governor or other arrangement fitted to prevent racing of the engine when declutched ye Means of lubrication  
 Thickness of cylinder liners 45 mm Are the cylinders fitted with safety valves ye Are the exhaust pipes and silencers water cooled or lagged with  
 ducting material *lagged* If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine  
 g Water Pumps, No. 2 salt and fuel water Is the sea suction provided with an efficient strainer which can be cleared within the vessel ye  
 Pumps worked from the Main Engines, No. one Diameter 140 mm Stroke 120 mm Can one be overhauled while the other is at work ye  
 connected to the Main Bilge Line { No. and Size *one 10 tons per hour* one 30 tons  
 How driven *Driven from intermediate shaft* electric driven

Pumps, No. and size *one 20 tons per hour* Lubricating Oil Pumps, including Spare Pump, No. and size 4 of 40 tons capacity p.h.  
 independent means arranged for circulating water through the Oil Cooler ye Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge  
 No. and size:—In Machinery Spaces 5 of 2 1/2" *approved*  
 s, &c. *2 of 1 1/2" each*  
 ndent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *one 3"*  
 the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes ye Are the Bilge Suctions in the Machinery Spaces  
 easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges ye

Sea Connections fitted direct on the skin of the ship ye Are they fitted with Valves or Cocks *Both*  
 fixed sufficiently high on the ship's side to be seen without tilting the platform plates ye Are the Overboard Discharges above or below the deep water line *above*  
 each fitted with a Discharge Valve always accessible on the plating of the vessel ye Are the Blow Off Cocks fitted with a spigot and brass covering plate ye  
 pes pass through the bunkers  
 pes pass through the deep tanks Have they been tested as per Rule

Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times ye  
 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  
 ment to another ye Is the Shaft Tunnel watertight ye Is it fitted with a watertight door ye worked from *upper deck*  
 d vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Air Compressors, No. *Two* No. of stages 2 Diameters 130 mm<sup>3</sup> Cap. Stroke R.P.M. 450 Driven by *electric driven*  
 Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 50 mm<sup>3</sup> Cap. Stroke *per hour* Driven by *hand*  
 ing Air Pumps, No. *two* Diameter 1000 mm Stroke 380 mm Driven by *Crankshaft*  
 ry Engines crank shafts, diameter as per Rule *approved* as fitted 150 mm

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule ye  
 internal surfaces of the receivers be examined ye What means are provided for cleaning their inner surfaces *manhole*  
 a drain arrangement fitted at the lowest part of each receiver ye  
 Pressure Air Receivers, No. *one* Cubic capacity of each 120 litres Internal diameter 302 mm thickness 8 mm  
 lap welded or riveted longitudinal joint *Seamless* Material *Steel* Range of tensile strength 50% of *per ton* Working pressure by Rules *700 lbs* 737  
 g Air Receivers, No. 2 Total cubic capacity 12 m<sup>3</sup> Internal diameter 1095 mm thickness 19 mm  
 lap welded or riveted longitudinal joint *riveted* Material *Steel* Range of tensile strength 30% - 35% of *per ton* Working pressure by Rules *400 lbs*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THE MARGIN.



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *✓*

PLANS. Are approved plans forwarded herewith for Shafting *See Plans Receivers* Separate Tanks *London*  
(If not, state date of approval) *16.11.33*

Donkey Boilers *✓* General Pumping Arrangements *Submarine* Oil Fuel Burning Arrangements *London*

SPARE GEAR *Spare gear completely supplied also for auxiliary machinery fitted: Plan See List attached*

- 1. main dynamo's 85 K.W.
- 1. Harbour dynamo 45 K.W. Dutch oil engine fitted in Rotterdam 40 H.P.
- 2. air compressors 130 m<sup>3</sup>/hour
- 2. salt water cooling pumps 150 tons per hour
- 1. lubrication oil purifier "Hayden" enclosed
- 2. fuel pumps " "
- 2. fresh water pumps 40 " "
- 2. lubr. oil pumps 40 " "
- 2. " " gear box 48 " "
- 1. alk. wash pump 20 m<sup>3</sup> " "
- 1. bilge pump 40 " "
- 1. fuel transfer pump 20 " "

The foregoing is a correct description,

**WERKSPOR N.V.**

*W. Spring*

Manufacturer.

Dates of Survey while building	During progress of work in shops--	1933. 10/1, 20/1, 24/1, 6/2, 7/2, 8/2, 10/2, 13/2, 15/2, 14/2, 22/2, 4/3, 6/3, 7/3, 14/3, 18/3, 21/3, 22/3, 23/3, 25/3
	During erection on board vessel---	3/4, 4/4, 14/4, 15/4, 26/4, 27/4, 28/4, 1/5, 4/5, 11/5, 18/5, 19/5, 23/6, 28/6, 30/6
	Total No. of visits	44

Dates of Examination of principal parts—Cylinders 20/1 - 25/3 Covers 20/1 - 25/3 Pistons 24/1 - 25/3 Rods 24/1 - 22/2 Connecting rods 10/1 -

Crank shaft *made in Germany* Flywheel shaft *✓* Thrust shaft *1545 S.A. Geans, vulcan compound* Intermediate shafts 20/1 - 19/5 ss. Tube shaft *✓*

Screw shaft 19-5-33 Propeller 19-5-33 Stern tube 19-5-33 Engine seatings 10/4 Engines holding down bolts 10/4

Completion of fitting sea connections *Rotterdam Bay* Completion of pumping arrangements 22/8 Engines tried under working conditions 22/8

Crank shaft, Material *Steel* Identification Mark *1486 K.H. 11.2.33* Flywheel shaft, Material *✓* Identification Mark *✓*

Thrust shaft, Material *Steel* Identification Mark *Lloyd's 169. 6.1.33* Intermediate shafts, Material *Steel* Identification Marks *423 T.M.B. 424 T.M.B. 347. 6.1.33*

Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *Steel* Identification Mark *348 T.M.B. 349. 6.1.33*

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 *✓*

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 machinery has been made in accordance with the Rules, Society's letter and approved plans. All material tested as required and workmanship good. The engines have been tested under full working conditions and good. The vessel is in my opinion eligible to be Classed + L.M.C. 8.33*

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 ...	<i>£ 42.-</i>	When applied for, 19
Special <i>air receivers</i> ...	<i>£ 120.-</i>	
Donkey Boiler Fee ...	<i>£ 100.80</i>	When received, 1933
Travelling Expenses (if any)	<i>£ 40.-</i>	

Committee's Minute **FRI. 20 OCT 1933**

Assigned

*+ L.M.C. 9.33*

*O.G.*

*P. V. Bernoski*  
Engineer Surveyor to Lloyd's Register of Shipping.



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