

# REPORT ON OIL ENGINE MACHINERY.

No. 12575.

3 OCT 1939

Received at London Office

Date of writing Report 12<sup>th</sup> Sept. 1939 When handed in at Local Office 18<sup>th</sup> Sept. 1939 Port of Lithuania  
Date, First Survey 2<sup>nd</sup> July Last Survey 29<sup>th</sup> Aug. 1939  
Number of Visits 2

Survey held at Trollhattan  
Tons Gross 366  
Net 177

888 on the Single Screw vessel "HELLESUND"  
Triple  
Quadruple  
Built at DELFTZIL By whom built JOHS. BERG Yard No. - When built 1916  
Engines made at TROLLHÄTTAN By whom made A.B. NYDQVIST & HOLM Engine No. 1093 When made 1939  
Boilers made at - By whom made - Boiler No. - When made -  
Horse Power 455 Owners D/S A/S VERITAS Port belonging to OSLO  
Horse Power as per Rule 118.5 Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted -

Trade for which vessel is intended - 2 or 4 stroke cycle 2 Single or double acting Single

ENGINES, &c. Type of Engines Heavy Oil Engine  
Maximum pressure in cylinders 4.5 kg/cm<sup>2</sup> Diameter of cylinders 250 mm Length of stroke 420 mm No. of cylinders 7 No. of cranks 7  
Indicated Pressure 4.35 kg/cm<sup>2</sup> Is there a bearing between each crank Yes

Revolutions per minute 325 Flywheel dia. 960 mm Weight 545 kg. Means of ignition Compression Kind of fuel used Diesel Oil  
Crank pin dia. 160 mm Crank Webs Mid. length breadth 230 mm Mid. length thickness 86 mm Thickness parallel to axis -  
Crank shaft, dia. of journals 148.1 mm as per Rule 148.1 mm as fitted 160 mm Thickness around eye-hole -

Propeller Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule 120.5 mm  
as fitted as fitted as fitted 139.9 mm

Propeller Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner -  
as fitted as fitted

Propeller Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule Is the after end of the liner made watertight in the stern tube -  
as fitted as fitted

Propeller boss - If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner -  
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 -  
two 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 -

Propeller, dia. - Pitch - No. of blades - Material - whether Moveable - Total Developed Surface - sq. feet -  
Method of reversing Engines Direct with compr. air Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes Means of lubrication -  
Thickness of cylinder liners 22 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with -

Insulating 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 -  
Cooling Water Pumps, No. One 320 lit/min. Is the sea suction provided with an efficient strainer which can be cleared within the vessel -  
Bilge Pumps worked from the Main Engines, No. One Diameter 95 mm Stroke 70 mm Can one be overhauled while the other is at work -

Pumps connected to the Main Bilge Line - No. and Size - How driven -  
If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping -  
the cooling water led to the bilges -

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Two 36 lit/min. each.  
Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge -  
In Pump Room -

Oil Cooler - Are the Bilge Suctions in the Machinery Spaces -  
two independent means arranged for circulating water through the -

Oil Pumps, No. and size:—In Machinery Spaces -  
Holds, &c. -

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size -  
Are the Bilge Suctions in the Machinery Spaces -  
all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes -  
from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges -  
Are they fitted with Valves or Cocks -

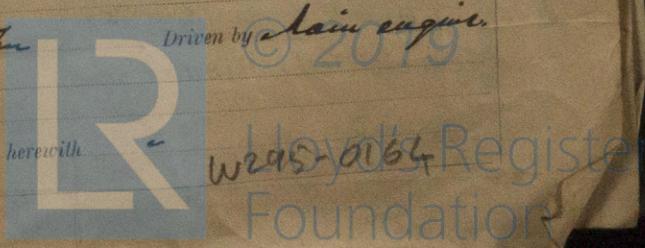
all Sea Connections fitted direct on the skin of the ship - Are the Overboard Discharges above or below the deep water line -  
they fixed sufficiently high on the ship's side to be seen without lifting the platform plates - Are the Blow Off Cocks fitted with a spigot and brass covering plate -  
they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

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times -  
the 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 -  
apartment to another - Is the Shaft Tunnel watertight - Is it fitted with a watertight door - worked from -

In 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. one No. of stages 2 Diameters 150/60 mm Stroke 100 mm Driven by Main engine  
Auxiliary Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -

Small Auxiliary Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -  
provision is made for first charging the Air Receivers - Diameter 590 mm Stroke 420 mm Driven by Main engine  
Recharging Air Pumps, No. One No. - Position -  
Auxiliary Engines crank shafts, diameter as per Rule Is a report sent herewith -  
as fitted

Are the Auxiliary Engines been constructed under special survey -



**AIR RECEIVERS:**—Have they been made under survey *Yes* ✓ State No. of Report or Certificate *2476* ✓  
 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 and cleaned *Yes* ✓ Is a drain fitted at the lowest part of each receiver *Yes* ✓  
**Injection Air Receivers, No.** *None* Cubic capacity of each *-* Internal diameter *-* thickness *-*  
 Seamless, lap welded or riveted longitudinal joint *-* Material *-* Range of tensile strength *-* Working pressure *-*  
**Starting Air Receivers, No.** *Two* Total cubic capacity *2x400 = 800 litres* Internal diameter *480* thickness *14*  
 Seamless, lap welded or riveted longitudinal joint *Welded* Material *Stl Steel* Range of tensile strength *35-40 tons* Working pressure *-*

**IS A DONKEY BOILER FITTED?** *-* If so, is a report now forwarded? *-*  
 Is the donkey boiler intended to be used for domestic purposes only *-*  
**PLANS.** Are approved plans forwarded herewith for Shafting *14.6.39 & 17.7.39* Receivers *14.6.39* Separate Fuel Tanks *-*  
 (If not, state date of approval)  
 Donkey Boilers *-* General Pumping Arrangements *-* Pumping Arrangements in Machinery Space *-*  
 Oil Fuel Burning Arrangements *-*

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied *Yes* ✓  
 State the principal additional spare gear supplied *-*

The foregoing is a correct description,  
**NYDQVIST & HOLM AKTERPOLAG** Manufacturer.  
*W. Brinell*

Dates of Survey while building  
 During progress of work in shops *July 3 Aug. 29 1939*  
 During erection on board vessel *-*  
 Total No. of visits *2*  
 Dates of Examination of principal parts—Cylinders *3.7.39* Covers *3.7.39* Pistons *3.7.39* Rods *-* Connecting rods *-*  
 Crank shaft *3.7.39* Flywheel shaft *-* Thrust shaft *-* Intermediate shafts *-* Tube shaft *-*  
 Screw shaft *-* Propeller *-* Stern tube *-* Engine sealings *-* Engines holding down bolts *-*  
 Completion of fitting sea connections *-* Completion of pumping arrangements *-* Engines tried under working conditions *29.10.39*  
 Crank shaft, Material *Stl Steel* Identification Mark *6723/9408* Flywheel shaft, Material *-* Identification Mark *-*  
 Thrust shaft, Material *-* Identification Mark *31.5.1939* Intermediate shafts, Material *-* Identification Marks *-*  
 Tube shaft, Material *-* Identification Mark *-* Screw shaft, Material *-* Identification Mark *-*  
 Identification Marks on Air Receivers *Nº 7831/7832*  
*LLOYD'S TEST 50 KG.*  
*W.P. 25 KG.*  
*K.A. 15.6.39.*

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 *-*  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *No* If so, have the requirements of the Rules been complied with *-*  
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *No*  
 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 main engine has been built under our Survey. The crank shaft as per Germanischer Lloyd's report attached. The results of the certificate have been confirmed by Brinell tests and found in order (Please see Secretary's letter dated 21 June inst. E). The workmanship is good. The dimensions are as specified and in accordance with the Rules and approved plans. The engine has been tried under full working power on the test bed and found to work satisfactorily. This engine is eligible in my opinion to be classed in the Register with notation of LMC with date without the distinguishing mark. It is stated, that this engine will be fitted or bored at Abois near Oslo. A copy of this report has been sent to Oslo.*

The amount of Entry Fee .. £	:	:	When applied for,
Special ... .. 20s.	:	475:00	18 <sup>th</sup> Sept. 1939
Donkey Boiler Fee ... £	:	:	When received,
Travelling Expenses (if any) 2s.	:	20:00	19

*Sten Johansson*  
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute  
 Assigned *See App. Rpt. 2837*



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