

REPORT ON OIL ENGINE MACHINERY.

No. 7796.

Received at London Office 23 SEP 1928

Date of writing Report 12th Sept. 1928. When handed in at Local Office

Port of Copenhagen

No. in Survey held at
Reg. Book.

Copenhagen

Date, First Survey 3rd December 1927 Last Survey 25th August 1928

Number of Visits 85.

90407. on the Twin

Single
Triple
QuadrupleMotor
Screw Vessel

"HIDLEFJORD."

Gross 7638.59
Net 4488.97

Built at Copenhagen

By whom built
Apt. Burmeister & Wain's
Maskin og Skibsbyggeri.

Yard No. 548. When built 1928.

Engines made at Copenhagen

By whom made
Apt. Burmeister & Wain's
Maskin og Skibsbyggeri.

Engine No. 1453 When made 1928.

Boilers made at Copenhagen

By whom made
Apt. Burmeister & Wain's
Maskin og Skibsbyggeri.

Boiler No. 1816 When made 1928.

Indicated Horse Power 3150.

Owners A. T. Skibsselskab, Hvidovre.

Port belonging to Stavanger

Net Horse Power as per Rule 714.

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

Trade for which vessel is intended

Ocean trade, carrying petroleum in bulk.

ENGINES, &c. Type of Engines Vertical Diesel Oil Engines (Cross head type) 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 35 kg/cm² Diameter of cylinders 630 mm = 24 3/8" Length of stroke 100 mm = 4 3/8" No. of cylinders 2 x 6 No. of cranks 2 x 6

No. of bearings, adjacent to the Crank, measured from inner edge to inner edge 892 mm Is there a bearing between each crank Yes

Revolutions per minute 135 Turning Wheel dia. 1902 mm Weight 1180 kg Means of ignition Air compression Kind of fuel used Crude oil, flash point above 156° F.

Crank Shaft, dia. of journals as per Rule 389 mm Crank pin dia. 390 mm Crank Webs Mid. length breadth 650 mm Thickness parallel to axis 266 mm

as fitted 390 mm Crank pin dia. 390 mm Crank Webs Mid. length thickness 246 mm Thickness around eye hole 175 mm

Wheel Shaft, diameter as per Rule Intermediate Shafts, diameter as fitted 13 1/2" x 12" Thrust Shaft, diameter at collars as per Rule 10.9"

as fitted 13 1/2" x 12" Is the screw shaft fitted with a continuous liner Yes

Screw Shaft, diameter as per Rule 11.42" as fitted 14 1/2" Is the after end of the liner made watertight in the

size Liners, thickness in way of bushes as per Rule 0.74" as fitted 13/16" x 7/8" Thickness between bushes as fitted 9/16" Is the after end of the liner made watertight in the

veller boss Yes. If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Lines in one length.

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 Yes

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

of the tube shaft Length of Bearing in Stern Bush next to and supporting propeller 6-2" plan

Propeller, dia. 12'-3" Pitch 9'-9" No. of blades 3. Material Bronze whether Moveable No Total Developed Surface 36-0 sq. feet

Method of reversing Engines Direct reversible Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Yes

Lubrication Thickness of cylinder liners 46 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

conducting 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 Exhaust pipes led up

Cooling Water Pumps, No. 2 off, Centrifugal, 150 tons Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Bilge Pumps worked from the Main Engines, No. 2 off Diameter of trunk 160 mm Stroke 196 mm Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line No. and Size 2 off engine bilge pumps, 32 tons each. 2 off independent bilge pumps, 26 tons each. 1 off ballast pump, 70 tons.

How driven by the main engines. - by an electric motor. - by electric motor.

Ballast Pumps, No. and size 1 off, Rotary pump, 70 tons. Lubricating Oil Pumps, including Spare Pump, No. and size 2 off, cog wheel pumps, 60 tons each.

Two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size: - In Machinery Spaces 3 off 4" dia. x 2 off 3" dia. In F.P.T. 1 off 4" dia. in fore hold 2 off 2" dia. in forward pump room 1 off 2" dia. in forward cofferdam 1 off 4" dia. all

folded, &c. connected to the pump fitted in forward pump room. In R.P.T. 1 off 3" dia. in the cargo pump room 2 off 3" dia. - In the aftermost cofferdam 1 off 3" dia. connected to the

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 off 5" dia. x 2 off 3" dia. ballast pump.

All the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces

from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes Values except the donkey boiler

all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Blow off cocks.

they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes Are the Overboard Discharges above or below the deep water line above.

they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes.

at pipes pass through the bunkers. no bunkers. Have they been tested as per Rule Yes

at pipes pass through the deep tanks The suction pipe to the aftermost cofferdam Yes

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

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

partment to another Yes Is the Shaft Tunnel watertight No tunnel Is it fitted with a watertight door Yes worked from Yes

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

in Air Compressors, No. 2 off No. of stages 3. Diameters 600-540-120 mm Stroke 410 mm Driven by the main engines.

Auxiliary Air Compressors, No. 2 off No. of stages 3. Diameters 318-285-78 mm Stroke 170 mm Driven by the auxiliary engines.

all Auxiliary Air Compressors, No. 1 off No. of stages 3. Diameters 210-176-45 mm Stroke 216 mm Driven by a steam engine.

Serving Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted See separate Rept.

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes

the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Starting air receivers are fitted with man holes

there a drain arrangement fitted at the lowest part of each receiver Yes I-200 lbs I-358 mm I-21 mm

High Pressure Air Receivers, No. 2 off working for main engines Cubic capacity of each I-400 " " Internal diameter I-450 mm thickness I-26 mm

Seamless, lap welded or riveted longitudinal joint lap welded Material S.M. Steel Range of tensile strength 22.2 tons/sq. inch Working pressure by Rules 25.01 kg/cm²Starting Air Receivers, No. 2 off Double butt straps Riveted Material S.M. Steel Range of tensile strength 22.2 tons/sq. inch Working pressure by Rules 25.01 kg/cm²Seamless, lap welded or riveted longitudinal joint Riveted Material S.M. Steel Range of tensile strength 22.2 tons/sq. inch Working pressure by Rules 25.01 kg/cm²

IS A DONKEY BOILER FITTED? *yes*
PLANS. Are approved plans forwarded herewith for Shafting (If not, state date of approval) *yes*
Donkey Boilers *yes* Receivers *Starting air - yes* Separate Tanks *yes*
SPARE GEAR *As per accompanying list.* General Pumping Arrangements *yes* Oil Fuel Burning Arrangements *yes*

- List of plans forwarded per commercial papers post o:
2 off. Crank, Foreast, Intermediate and Screw shafts.
1 " Starting air receivers.
1 " Daily service oil fuel tanks.
1 " General pumping and oil cargo pumping arrangement.
1 " Pumping arrangement in machinery space.
1 " Donkey Boilers.
1 " Oil fuel settling tank for the donkey boilers.

The foregoing is a correct description,

BURMEISTER & WAIN
WASKIN & SKIBBYOGER

Manufacturer.

Dates of Survey while building { During progress of work in shops - 3, 7, 12, 16, 21, 28 Decr 1927 - 1, 2, 19, 26, 31 Jan - 3, 14, 20, 23 Feb - 2, 8, 9, 12, 13, 15, 20, 24, 27, 30 March - 2, 3, 10, 11, 16, 18, 23, 24, 26 April - 2, 3, 8, 10, 11, 12, 14, 16, 21, 22, 23, 24, 26, 27 May - 2, 3, 8, 10, 11, 12, 14, 16, 21, 22, 23, 24, 26, 27 June - 2, 3, 8, 10, 11, 12, 14, 16, 21, 22, 23, 24, 26, 27 July - 2, 3, 8, 10, 11, 12, 14, 16, 21, 22, 23, 24, 26, 27 Aug. 1928.
During erection on board vessel - 29, 30, 31 May - 1, 2, 6, 7, 11, 12, 14, 15, 16, 18, 19, 22, 23, 26, 29, 30 June - 4, 6, 9, 10, 11, 13, 20, 27, 31 July - 8, 10, 16, 20, 21, 22, 23, 25 Aug. 1928.
Total No. of visits **85.**

Dates of Examination of principal parts - Cylinders and Covers 26/1, 29/2, 12/3, 3/4, 14/28, 3/23, 28 Rods 26/28, 2/27, 10/28, 3/2, 7/2, 16/27, 12/27 Connecting rods 3/2, 7/2, 16/27, 12/27
Crank shafts 14/3, 20/2, 18/3, 18/4 Flywheel shaft 15/2, 2/2, 9/28 Thrust shafts 15/2, 2/2, 9/28 Intermediate shafts 30/14, 27/5, 28 Tube shaft 13/8, 10/10
Screw shafts 2/4, 10/4, 2/5 Propellers 22/6, 28 Stern tubes 18/6, 28 Engine seatings 19/4, 6/7, 28 Engines holding down bolts 21/22, 28/25
Completion of fitting sea connections 29/6, 28 Completion of pumping arrangements 22/8, 28 Engines tried under working conditions 18/8, 16/8
Crank shafts Material S.M.I. Steel Identification Mark LLOYD'S N° 94336 & 94337 28.5.28 Flywheel shaft, Material LLOYD'S Identification Mark N° 94064 & 94065 28.5.28
Thrust shafts Material S.M.I. Steel Identification Mark LLOYD'S N° 94845 & 94846 28.5.28 Intermediate shafts, Material S.M.I. Steel Identification Mark N° 94463 & 94464 28.5.28
Tube shaft, Material S.M.I. Steel Identification Mark LLOYD'S N° 94845 & 94846 28.5.28 Screw shafts Material S.M.I. Steel Identification Mark LLOYD'S N° 94845 & 94846 28.5.28
Spare screw shaft " S.M.I. Steel

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*
Is this machinery duplicate of a previous case *No* If so, state name of vessel *yes*

General Remarks (State quality of workmanship, opinions as to class, &c.) *In accordance with the Rules for Special Survey we have examined the material and workmanship from the commencement of construction of the above machinery until the final test under working condition and found to be, so far as can be seen, good and efficient in every respect.*
The material used in the construction of the engines and the air receivers have been tested as required by the Rules, either as per test certificates produced.
The dimensions are as specified and in accordance with the Rules, the approved plans and the requirements contained in the letters E. dated 8th Aug. 20th & 31st Octbr, 10th Novr and 23rd Decr 1927.
The oil cargo pumping arrangement has been fitted in accordance with the Rules and the plan approved on the 10th Novr 1927, - and has been tested under working condition and found satisfactory.
On the trial trip the main engines and the whole auxiliary machinery have been tested under full power working condition and to work satisfactorily. - The manuvring of the main engines tested under working condition and found satisfactory.
Recommend the vessel to have notation in the Register Book of **LMC-8.28 OIL ENGINES. C.L.**

The amount of Entry Fee *£ 109.20*
Special *£ 2014.74*
Starting Air Receivers *£ 152.88*
Donkey Boilers *£ 100.00*
Travelling Expenses (if any) *£ 18.75*
Committee's Minute
Assigned
When applied for, 18-9-28
When received, 15-10-28
TUE. 2 OCT 1928
+ LMC 8:28 Oil Engines C.L.
A.E. Dybeck, M.A. Surveyor to Lloyd's Register of Shipping

