

## REPORT ON OIL ENGINE MACHINERY.

No. 1952

Received at London Office

Date of writing Report 30th July 52 When handed in at Local Office 19 Port of HAMBURG 4 OCT 1952

No. in Survey held at HAMBURG Date, First Survey 30th November 1951 Last Survey 10th May 19 52.

Reg. Book. 22328 on the Single Screw vessel Motor Tanker "PEIK" Tons Gross 6099  
Triple  
Quadruple Net 3592

Built at Newcastle By whom built Armstrong Whitworth & Co. (Shipbuilders) Ltd. Yard No. - When built 1930

Engines made at Hamburg By whom made Howaldtswerke A.G. Engine No. 49 When made 1952

Donkey Boilers made at Newcastle By whom made Armstrong Whitworth & Co. (Engineers) Ltd. Boiler No. - When made 1930

Brake Horse Power { Maximum 3000 Owners Bulls Tankrederi A/S Port belonging to Sandefjord  
Service -

M.N. as per Rule 600 Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted -

Trade for which vessel is intended -

OIL ENGINES, &c. — Type of Engines Heavy Oil Type K 5 Z 70/120 2 or 4 stroke cycle 2 Single or double acting single

Maximum pressure in cylinders 50 Atm. Diameter of cylinders 700 mm Length of stroke 1200 mm No. of cylinders 5 No. of cranks 6

Mean Indicated Pressure 6.3 Atm. Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 920 mm Is there a bearing between each crank yes Revolutions per minute { Maximum 115  
Service 112 ✓

Flywheel dia. 2300 mm Weight 4255 kg Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg./m.<sup>2</sup>) 16600 Means of ignition comp. Kind of fuel used heavy oil

Crank Shaft, { Solid forged dia. of journals as per Rule - Crank pin dia. 445 mm Crank webs Mid. length breadth 616 mm Thickness parallel to axis 275 mm  
Semi built as fitted 445 mm Mid. length thickness 275 mm shrunk Thickness around eye hole 193.5 mm  
All built

Flywheel Shaft, diameter as per Rule - Intermediate Shafts, diameter as per Rule - Thrust Shaft, diameter at collars as per Rule 430 mm  
as fitted - as fitted - as fitted -

Tube Shaft, diameter as per Rule - Screw Shaft, diameter as per Rule - Is the { tube screw } shaft fitted with a continuous liner { - }  
as fitted - as fitted -

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

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 - Is an approved Oil Gland fitted at the after end of stern tube - If so, state type - Length of bearing in Stern Bush next to and supporting propeller -

Propeller, dia. - Pitch - No. of blades - Material - whether moveable - Total developed surface - sq. feet 3/11/52

Moment of inertia of propeller including entrained water (lbs. in<sup>2</sup> or Kg./cm<sup>2</sup>) - Kind of damper, if fitted -

Method of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine yes Means of lubrication forced Thickness of cylinder liners 40 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with non-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 -

Cooling Water Pumps, No. and how driven - Working F.W. -

S.W. - Spare F.W. - S.W. - Is the sea suction provided with an efficient strainer which can be cleared within the vessel -

Bilge Pumps worked from the Main Engines, No. and capacity - Can one be overhauled while the other is at work -

Pumps connected to the Main Bilge Line { No. and capacity of each -  
How driven -

Is the cooling water led to the bilges - If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements -

Ballast Pumps, No. and capacity - Power Driven Lubricating Oil Pumps, including spare pump, No. and size -

Are two independent means arranged for circulating water through the Oil Cooler - Branch Bilge Suctions -

No. and size:—In machinery spaces - In pump room -

In holds, &c. -

Direct Bilge Suctions to the engine room bilges, No. and size -

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes - Are the bilge suction in the machinery spaces led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges -

Are all Sea Connections fitted direct on the skin of the Ship - Are they fitted with valves or cocks - Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates - Are the overboard discharges above or below the deep water line -

Are they each fitted with a discharge valve always accessible on the plating of the vessel - Are the blow off cocks fitted with a spigot and brass covering plate -

What pipes pass through the bunkers - How are they protected -

What pipes pass through the deep tanks - Have they been tested as per Rule -

Are all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times -

Is 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 compartment to another - Is the 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 -

Main Air Compressors, No. - No. of stages - diameters - stroke - driven by -

Auxiliary Air Compressors, No. - No. of stages - diameters - stroke - driven by -

Small Auxiliary Air Compressors, No. - No. of stages - diameters - stroke - driven by -

What provision is made for first charging the air receivers -

Scavenging Air Pumps or Blowers, No. One, 1380 mm dia. How driven main engine Engine Nos. -

Auxiliary Engines Have they been made under survey - Position of each in engine room -

Makers name - Report No. -



AIR RECEIVERS:—Have they been made under survey.....State No. of report or certificate.....

State full details of safety devices.....

Can the internal surfaces of the receivers be examined and cleaned.....Is a drain fitted at the lowest part of each receiver.....

Injection Air Receivers, No.....Cubic capacity of each.....Internal diameter.....thickness.....

Seamless, welded or riveted longitudinal joint.....Material.....Range of tensile strength.....Working pressure.....

Starting Air Receivers, No.....Total cubic capacity.....Internal diameter.....thickness.....

Seamless, welded or riveted longitudinal joint.....Material.....Range of tensile strength.....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.....Receivers.....Separate fuel tanks.....

(If not, state date of approval)

Donkey boilers.....General pumping arrangements.....Pumping arrangements in machinery space.....

Oil fuel burning arrangements.....

Have Torsional Vibration characteristics been approved.....yes.....Date and particulars of approval.....19.10.1951

### SPARE GEAR.

Has the spare gear required by the Rules been supplied.....State if for "short voyages" only.....

State the principal additional spare gear supplied.....

### HOWALDTSWERKE

The foregoing is a correct description of the engine and its parts, as built and tested by the undersigned, and as shown to the undersigned by the manufacturer, Howaldtswerke Aktiengesellschaft, Hamburg.

Dates of Survey while building.....During progress of work in shops - - Nov. 30, Dec. 7, 10, 12, 14, 20, 28, 1951, Jan. 9, 10, 26, 30, 31, Febr. 9, 14, 20, 21, 22, 23, 25, 26, 27, 28, 29, March 5, 8, 9, 10, 13, 18, 19, 21, 26, May 10, 1952.

During erection on board vessel - -

Total No. of visits.....32

Dates of examination of principal parts—Cylinders.....5.3.52.....Covers.....5.3.52.....Pistons.....10.1.52.....Rods.....10.1.52.....Connecting rods.....13.3.52

Crank shaft.....23.2.52.....Flywheel shaft.....-.....Thrust shaft.....23.2.52.....Intermediate shafts.....-.....Tube shaft.....-

Screw shaft.....-.....Propeller.....-.....Stern tube.....-.....Engine seatings.....-.....Engine holding down bolts.....-

Completion of fitting sea connections.....-.....Completion of pumping arrangements.....-.....Engines tried under working conditions.....-

Crank shaft, material.....S.M. Steel.....Identification mark.....894 GL.....Scavenging pump shaft.....S.M. Steel.....Identification mark.....885 GL

Thrust shaft, material.....S.M. Steel.....Identification mark.....10 GL 51.....Intermediate shafts, material.....-.....Identification marks.....-

Tube shaft, material.....-.....Identification mark.....-.....Screw shaft, material.....-.....Identification mark.....-

Identification marks on air receivers.....-

Welded receivers, state Makers' Name.....-

Is the flash point of the oil to be used over 150°F.....-

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with.....-

Full description of fire extinguishing apparatus fitted in machinery spaces.....-

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo.....-.....If so, have the requirements of the Rules been complied with.....-

What is the special notation desired.....-

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with.....-

Is this machinery duplicate of a previous case.....yes.....If so, state name of vessel....."TAI PING YANG"

General Remarks (State quality of workmanship, opinions as to class, Speed restrictions, &c. This engine has been constructed under Special Survey and scantlings are in accordance with the approved plans. Materials and the workmanship are good. The crankshaft has been constructed to the Rule Requirements of the Germanischer Lloyd. The engine has otherwise been examined during construction and is eligible, in my opinion, to have the notation LMC when satisfactorily installed in a classed vessel and examined under working conditions. The torsional vibration calculations for the shafting are approved for a service speed of 112 R.P.M.)

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

Committee's Minute.....

Assigned.....

Refused to sign  
Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register  
Foundation