

RECEIVED

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 15650.

Received at London Office

Date of writing Report 10th Oct. 1947. When handed in at Local Office 27th Oct. 1947. Port of Gothenburg.

No. in Survey held at Gothenburg. Date, First Survey 5th September 1946. Last Survey 17th October 1947. Reg. Book. Number of Visits 102.

36434 on the ~~XXXX~~ Single Screw vessel "ARABIAN QUEEN" Tons Gross 11173 Net 6665

Built at Gothenburg By whom built A-B. Götaverken Yard No. 609 When built 1947

Engines made at Gothenburg By whom made A-B. Götaverken Engine No. 1855 When made 1947

Donkey Boilers made at Gothenburg By whom made A-B. Lindholmens Varv Boiler No. 2751-2 When made 1946

Brake Horse Power 6750 Owners Rederi A-B. Kungsoil Port belonging to Kungsbacka

Machinery as per Rule 1260 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended General

IL ENGINES, &c. — Type of Engines Heavy oil, crosshead type 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 49 kg/cm² 26 3/4" (26.13/16") 59 1/2" (59")Mean Indicated Pressure 6.75 kg/cm² Diameter of cylinders 680 mm Length of stroke 1500 mm No. of cylinders 9 No. of cranks 9

Span of bearings, adjacent to the crank, measured from inner edge to inner edge 974 mm Is there a bearing between each crank Yes

Revolutions per minute 112 Turning wheel dia. 2136 mm Weight 1950 kg Means of ignition Compression Kind of fuel used Diesel oil

Crank Shaft, Semi built dia. of journals as fitted 480/130 mm Crank pin dia. 480/105 mm Crank webs Mid. length breadth shrunk Thickness parallel to axis 300 mm

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as fitted 405 mm Thrust Shaft, diameter at collars as fitted 480 mm

Tube Shaft, diameter as fitted Screw Shaft, diameter as fitted 466.5 mm Is the (screw) shaft fitted with a continuous liner No

Bronze Liners, thickness in way of bushes as fitted Thickness between bushes as fitted 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 or other appliance fitted at the after end of the shaft Yes

If so, state type Cedervalls ordinary special Length of bearing in Stern Bush next to and supporting propeller 2075 mm

Propeller, dia. 5550 mm Pitch 4270 mm No. of blades 4 Material Bronze whether moveable No Total developed surface 12.8 sq. feet

Method of reversing Engines Compr. air Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of lubrication Forced Thickness of cylinder liners 50

Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled

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

Led to the 2 fresh water & 4160 litres per minute, and 2 salt water & 5000 litres per

Back to the engine funnel Cooling Water Pumps, No. minute 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. None Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and size 1 ballast 100 t/h. 1 bilge 30 t/h. 1 bilge 25 t/h. 1 f.o. transf. & bilge 50 t/h.

How driven Electrically Steam Electrically Electrically

Is the cooling water led to the bilges No 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 size 1 x 100 t/h. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 3 x 125 M³/hour

Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both main bilge pumps and auxiliary

Main 3 x 3" In pump room Forward 1 x 2 1/2"

In machinery spaces 3 x 3 1/2", 2 x 3", 1 x 3" and 1 x 2" to cofferdam

In dry cargo hold: 2 x 2 1/2", Fore peak tank: 1 x 4", From cofferdam: 1 x 5"

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1 x 5" to ballast pump, 1 x 5" to bilge, bilge and

sanitary- and fuel oil transfer pump

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes Yes 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 Yes

On welded stands and on tank top Are they fitted with valves or cocks Valves Are they fixed

efficiently high on the ship's side to be seen without lifting the platform plates lifted Are the overboard discharges above or below the deep water line Above

Are 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

What pipes pass through the bunkers No coal bunkers How are they protected

What pipes pass through the deep tanks Heating coils Have they been tested as per Rule Yes

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

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 Yes Is the shaft tunnel watertight E.R. aft 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. None No. of stages diameters stroke driven by

Auxiliary Air Compressors, No. 2 No. of stages 2 diameters 320/280 mm. stroke 150 mm. driven by El. motor

Small Auxiliary Air Compressors, No. None No. of stages diameters stroke driven by

What provision is made for first charging the air receivers By the el. driven air compr. Current supplied from steam driven generator

Under side of main pistons

Scavenging Air Pumps, No. Also an additional pump diameter 320 mm. stroke 1500 mm. driven by Each m.e. crosshead

Auxiliary Engines crank shafts, diameter as fitted 160 mm. No. 2

Steam Engine, No. 1 Steam engine on port side engine room floor starboard side on the engine room floor

Have the auxiliary engines been constructed under special survey Yes Is a report sent herewith Yes

AIR RECEIVERS:—Have they been made under survey... Yes ✓ State No. of report or certificate...
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. Nona ✓ 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. 2 ✓ Total cubic capacity... 2 x 11.3 M³ Internal diameter... 1800 mm... thickness... 25 mm...
Seamless, lap welded or riveted longitudinal joint... Riveted ✓ Material... S.M. Steel Range of tensile strength... 44-50 kg/mm² Working pressure... 25 kg/cm² Actual... 25 kg/cm²

~~ARE~~ ~~DO~~ ~~BOILERS~~ ~~FITTED~~ Yes ✓ If so, is a report now forwarded... Yes ✓
Is the donkey boiler intended to be used for domestic purposes only... No ✓
PLANS. Are approved plans forwarded herewith for shafting... London 6.7.1945 Receivers... London 14.1.1946 Separate fuel tanks...
(Appd and intended for Yard No. 604) not, state date of approval
Donkey boilers... Gothenburg 6.3.45 General pumping arrangements... London 15.5.46 Pumping arrangements in machinery space... London 4.9.1947
Oil fuel burning arrangements...
SPARE GEAR.

Has the spare gear required by the Rules been supplied... Yes ✓
State the principal additional spare gear supplied... 2 fuel needle valves, 3 exhaust gas valves, 1 top end bearing top half, 2 main bearing brasses, 1 fuel oil pump complete, 1 piston rod for scavenge pump, 1 screw shaft, 9 yokes for exhaust gas valve

The foregoing is a correct description, and the particulars of the installation as fitted are as approved for torsion vibration characteristics... Manufacturer.

Dates of Survey while building { During progress of work in shops - - 5th September, 1946 - 16th September, 1947.
During erection on board vessel - - 23rd April, 1947 - 17th October, 1947.
Total No. of visits... One hundred and two.
Dates of examination of principal parts—Cylinders 11-16.4.47 Covers 7.3-14.4.47 Pistons 24.3.1947 Rods 11.4.1947 Connecting rods 3-13.9.47
Crank shaft 17.3.1947 Flywheel shaft... Thrust shaft 17.3.1947 Intermediate shafts 12.6 & 2/9.47 Tube shaft...
Screw shaft 16.6.1947 Propeller 2.6.1947 Stern tube 7.5.1947 Engine seatings 8.7.1947 Engine holding down bolts 11.8.1947
Completion of fitting sea connections 7.5.1947 Completion of pumping arrangements 15/10.47 Engines tried under working conditions 21.5.1947
Crank shaft, material... S.M. Steel Identification mark... GA 30.10.46 Flywheel shaft, material... Identification mark...
Thrust shaft, material... S.M. Steel Identification mark... GA 30.10.46 Intermediate shafts, material... S.M. Steel Identification marks See below
Tube shaft, material... Identification mark... Screw shaft, material... S.M. Steel Identification mark... TO 16.6.47
Identification marks on air receivers...
Mos. 1775/6
LLOYDS TEST 39 KGS
WP 25 KGS
TO 11.6.47
Intermediate shafts:-
Lloyd's No. 3012 OS. 2-9-47
Lloyd's No. 3013 OS. 12-6-47

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 ✓
Description of fire extinguishing apparatus fitted... Steam under boilers, E.R. floor plates 6x15 liters foam extinguishing apparatus.
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...
If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with... Not desired
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 machinery has been built under special survey in accordance with the Rules and approved plans and has been fitted on board under my supervision and to my satisfaction. The workmanship and materials are good and test sheets in respect of the shafting and the air receiver material are attached.
The machinery has been tested under full working power on a trial trip and found in order.
The torsional vibration characteristics are approved as per Secretary's letter dated the 6th July 1945, initialled "E". A notice board has been fitted at the control station stating that the engine is not to be run continuously between 28 and 41 revolutions per minute.
This machinery is eligible, in my opinion, to be classed +IMC 10.47 with notation of OG and 2 DE 150 lbs. per square inch, subject to single-pole switches for lighting in accommodations and engine room being replaced by double-pole switches.

The amount of Entry Fee ... £ -- : -- :
Special ... Kr. 3600:00 :
Exhaust gas econ. ... Kr. 60:00 :
Travelling Expenses (if any) £ : :
When applied for 27th Oct. 19 47.
When received ... 19 --

(Committee's Minute... subject...
Assigned... + L.M.C 10.47 Oil Eng. OG
2. DE 150 lbs.

Signature of Engineer Surveyor to Lloyd's Register of Shipping.
Lloyd's Register Foundation