

# REPORT ON OIL ENGINE MACHINERY.

No. 110702

9 SEP 1953

Received at London Office  
NEWCASTLE-ON-TYNE.

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No. in Survey held at WALLSEND-ON-TYNE. Date, First Survey 6.2.52. Last Survey 31.8.53

Reg. Book. 35053 on the Single Screw vessel M.V. "BURMAH SAPPHIRE" Number of Visits 185 Tons Gross 6230.88 Net 3354.23

Supplement Single Double Triple Quadruple

Built at WALLSEND-ON-TYNE. By whom built SWAN HUNTER & Wigham Richardson L<sup>td</sup> Yard No. 1821 When built 1953.

Engines made at WALLSEND-ON-TYNE. By whom made WALLSEND SHIPWAY & Eng. Co L<sup>td</sup> Engine No. 1040 When made 1953.

Donkey Boilers made at WALLSEND-ON-TYNE. By whom made WALLSEND SHIPWAY & Eng. Co L<sup>td</sup> Boiler No. 1040 When made 1953.

Brake Horse Power 3500. Owners THE BURMAH OIL CO (TANKERS) L<sup>td</sup> Port belonging to LONDON.

M.N. Power as per Rule 3500/5 = 700. Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES.

Trade for which vessel is intended OPEN SERVICE.

**OIL ENGINES, &c.** — Type of Engines WALLSEND SHIPWAY DOxford Opposed Piston 2 or 4 stroke cycle 2 Single or double acting SINGLE.

Maximum pressure in cylinders 640 lbs/p. Diameter of cylinders 600-1/4 Length of stroke 2320-1/4 No. of cylinders 4 No. of cranks 4 (THREE THROW)

Mean Indicated Pressure TRIAL 92 lbs/p. Ahead Firing Order in Cylinders 1-3-4-2. Span of bearings, adjacent to the crank, measured BETWEEN EACH THREE THROW Revolutions per minute TRIAL 109.

from inner edge to inner edge 1748-1/4 Is there a bearing between each crank THREE THROW Kind of fuel used HEAVY OIL

Flywheel dia 2450-1/4 Weight 3.43 Tons Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) 0.225 Tons ft<sup>2</sup> Sec<sup>2</sup> Means of ignition Compression

Crank Shaft, Solid forged dia. of journals as per Rule 433-1/4 Crank pin dia 450-1/4 Crank webs Mid. length breadth 650-1/4 Thickness parallel to axis 255-1/4

Flywheel Shaft, diameter as per Rule 13 1/8 Intermediate Shafts, diameter as per Rule 16 1/4 Thrust Shaft, diameter at collars as fitted

Tube Shaft, diameter as per Rule 14 1/2 Screw Shaft, diameter as per Rule 19 Is the tube shaft fitted with a continuous liner YES.

Bronze Liners, thickness in way of bushes as per Rule 15 1/16 Thickness between bushes as per Rule 17 8/25 3/32 Is the after end of the liner made watertight in the propeller boss YES.

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner YES.

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 YES. If two liners are fitted, is the shaft lapped or protected between the liners YES. Is an approved Oil Gland or other appliance fitted at the after end of tube shaft No If so, state type VALENTINE

Propeller, dia 16'-6" Pitch 2.55/9.60 No. of blades 4 Material MANGANESE whether moveable No Total developed surface 89 sq. feet

Moment of inertia of propeller (lbs. in<sup>2</sup> or Kg. cm<sup>2</sup>) 3.67 Tons ft<sup>2</sup> Sec<sup>2</sup> Kind of damper, if fitted YES.

Method of reversing Engines HAND LEVER & COMPRESSED AIR Is a governor or other arrangement fitted to prevent racing of the engine when disengaged YES. Means of lubrication FORCED Thickness of cylinder liners 25-1/4 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 1- MAIN ENGINE DRIVEN 160 Tons/hr S.W. = 1000 + 1200 F.W. = 1200 + 1100

Bilge Pumps worked from the Main Engines, No. NONE Diameter 10 1/2 x 12 Stroke 10 Can one be overhauled while the other is at work YES.

Pumps connected to the Main Bilge Line No. and size 1- BALLAST 9" x 11" x 10" 200 Tons/hr 1- BILGE 7" x 8" x 8" 70/80 Tons/hr 1- GENERAL SERVICE 7" x 8" x 8" 70/80 Tons/hr How driven STEAM

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 STEAM.

Ballast Pumps, No. and size ONE 9" x 11" x 10" 200 Tons/hr Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1- MAIN ENGINE DRIVEN 35 Tons/hr 1- STEAM INDEPENDANT 7" x 8" x 8"

Are 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 1- 3" PAT PUMP 1- 2 1/2" ECOH SOUNDING COMP ONLY BAGE 1- 2" P 1- 2 1/2" 1- 3" PAT PUMP 1- 2 1/2" ECOH SOUNDING COMP 1- 3" PAT PUMP 1- 2 1/2" ECOH SOUNDING COMP 1- 3" PAT PUMP 1- 2 1/2" ECOH SOUNDING COMP In pump room 1- 4" P 1- 4" S SMALL PUMP 1- 3"

In holds, & FOR COFFEEHOLD 1- 6" DIA:

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1- 5" PAT. 1- 3" STAR 1- 8" EMERGENCY

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.

Are all Sea Connections fitted direct on the skin of the Ship No Are they fitted with valves or cocks BOTH. Are 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 BELOW

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 NONE How are they protected YES.

What pipes pass through the deep tanks NONE 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 YES. Is it fitted with a watertight door YES. worked from YES.

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

Main Air Compressors, No. NONE No. of stages 1 diameters 12 1/2 stroke 12 1/2 driven by STEAM

Auxiliary Air Compressors, No. 2 No. of stages 3 diameters EACH 12 1/2 stroke AIR MAIN driven by STEAM ENGINES.

Small Auxiliary Air Compressors, No. 1 No. of stages 1 diameters 12 1/2 stroke 12 1/2 driven by STEAM ENGINES.

What provision is made for first charging the air receivers DONKEY BOILERS & STEAM DRIVEN AIR COMPRESSORS.

Scavenging Air Pumps, No. 2 diameter 1570-1/4 stroke 570-1/4 driven by SIDE LEVERS 1" 112 ENGINES.

Auxiliary Engines crank shafts, diameter as per Rule APPROVED No. 2 Diesel EACH 80 KW 1- STEAM 50 KW Position ONE END PLATFORM LEVEL ONE END PLATFORM LEVEL ONE END PLATFORM LEVEL ONE END PLATFORM LEVEL

Have the auxiliary engines been constructed under special survey YES. Is a report sent herewith YES. STEAM YES BIRMINGHAM LET 105336.

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