

## REPORT ON OIL ENGINE MACHINERY.

No. 110702

-9 SEP 1953

Received at London Office  
NEWCASTLE-ON-TYNE

Date of writing Report 3.9.53

When handed in at Local Office 3.9.53

Port of

No. in Survey held at

WALLSEND-ON-TYNE

Date, First Survey 6.2.52

Last Survey 31.8.53

Reg. Book.

35053

Single

Screw vessel

M.V. "BURMAH SAPPHIRE"

Number of Visits 185

Tons

Gross 6230.88

Net 3354.23

Built at WALLSEND-ON-TYNE

By whom built SWAN HUNTER &amp; Wigham Richardson Ltd

Yard No. 1821

When built 1953

Engines made at WALLSEND-ON-TYNE

By whom made WALLSEND SHIPWAY &amp; ENG. CO. LTD

Engine No. 1040

When made 1953

Donkey Boilers made at WALLSEND-ON-TYNE

By whom made WALLSEND SHIPWAY &amp; ENG. CO. LTD

Boiler No. 1040

When made 1953

Brake Horse Power 3500

Owners THE BURMAH OIL CO. (TANKERS) LTD

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 lbf/sq. in. Diameter of cylinders 600 in. Length of stroke 2320 in. No. of cylinders 4 No. of cranks 4 (THREE THROWS)

Mean Indicated Pressure 92 lbf/sq. in. Ahead Firing Order in Cylinders 1-3-4-2

Span of bearings, adjacent to the crank, measured BETWEEN EACH THREE THROWS. Revolutions per minute 109

from inner edge to inner edge 1748 in. Is there a bearing between each crank THREE THROWS. Kind of fuel used (BUNKER C) HEAVY OIL

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

Crank Shaft, Solid forged dia. of journals 433 in. Crank pin dia 450 in. Crank webs Mid. length breadth 650 in. Thickness parallel to axis 255 in.

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

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

Bronze Liners, thickness in way of bushes as per Rule 15 1/16 in. Thickness between bushes as per Rule 17 8/25 in. 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

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 tube shaft No

Propeller, dia 66 in. Pitch 25 1/2 in. 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. Sec<sup>2</sup> Kind of damper, if fitted

Method of reversing Engines HAND LEVER & COMPRESSED AIR Is a governor or other arrangement fitted to prevent racing of the engine when disengaged YES

lubrication FORCED Thickness of cylinder liners 25 in. 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. 1-MAIN ENGINE DRIVEN 160 Tons/Hr S.W. = 104 ft x 12 in. F.W. = 120 ft x 12 in.

Is the sea suction provided with an efficient strainer which can be cleared within the vessel

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 9" x 11" x 10" 200 Tons/Hr 1-BILGE 7" x 8" x 8" 70 Tons/Hr 1-GENERAL SERVICE 7" x 8" x 8" 70 Tons/Hr

How driven STEAM STEAM 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

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" DIA. 1-2" DIA. 1-2" DIA. ONLY BARGE 1-2" DIA. 1-2" DIA. (TRANSIT PUMP). In pump room 1-4" DIA. 1-4" DIA. 1-4" DIA. SMALL PUMP 1-3" DIA.

In holds, & COFFERDAM 1-6" DIA.

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

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

Are the bilge suction pipes 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

What pipes pass through the deep tanks NONE

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 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

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

ENGINE

Main Air Compressors, No. NONE No. of stages diameters stroke driven by

Auxiliary Air Compressors, No. 2 No. of stages 3 diameters EACH 1250 in. stroke AIR/RAIN driven by STEAM ENGINES

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

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

Scavenging Air Pumps, No. 2 diameter 1510 in. stroke 510 in. driven by SIDE LEVERS & 112 ENGINES

Auxiliary Engines crank shafts, diameter as per Rule APPROVED No. 2- DIESEL EACH 80 KW 1-STEAM 50 KW

as fitted DIESEL CRANKSHAFTS 6.622 in. STEAM CRANKSHAFTS 3.772 in. Position ONE MAIN FORWARD ONE STAR FORWARD ONE STAR FORWARD

Have the auxiliary engines been constructed under special survey YES

Is a report sent herewith DIESEL YES MANCHESTER RPT. 15203. STEAM YES BIRMINGHAM LET. 15336.

002536-002542-0166

