

REPORT ON OIL ENGINE MACHINERY.

No. 106768

Received at London Office 30 NOV 1949

Date of writing Report 19 When handed in at Local Office 24/11/49 19 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Walker on Tyne Date, First Survey 4/5/48 Last Survey 16/11/49 19
Reg. Book. Number of Visits 122

35045 on the ^{Single} ~~Twin~~ ^{Triple} ~~Quadruple~~ Screw vessel M.V. BRITISH ARDOUR Tons { Gross 861.6
Net 498.2

Built at Walker on Tyne By whom built Swan Hunter & Wigham Rich & Co Ltd Yard No. 1266 When built 1949

Engines made at " " By whom made " " Engine No. 1266 When made 1949

Donkey Boilers made at " " By whom made " " Boiler No. 1266 When made 1949

Brake Horse Power 3100 Owners British Tanker Co Ltd Port belonging to London

Nom. Horse Power as per Rule 687 = MN Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Carrying petroleum in bulk

OIL ENGINES, &c. — Type of Engines Swan Hunter Doxford Opposed Piston or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 640 lb/sq. in. Diameter of cylinders 23 7/8" (900+1340) 91 3/4" THREE

Mean Indicated Pressure 85 lb/sq. in. Length of stroke 2320 mm No. of cylinders 4 No. of cranks 4 THROW

Span of bearings, adjacent to the crank, measured from inner edge to inner edge 886 mm CENTRES OF SIDE RODS BETWEEN EACH

Revolutions per minute 105 Flywheel dia. A-2450 mm F-1690 mm F-1330 mm Weight A-3.26 m. Means of ignition COMPRESSION Kind of fuel used Diesel Oil

Crank Shaft, Solid forged as per Rule Approved as fitted 450 mm Crank pin dia. 450 mm Crank webs Mid. length breadth 650 mm Thickness parallel to axis 255 mm

Semi built as fitted 450 mm Crank webs Mid. length thickness 255 mm shrunk Thickness around eyehole 200 mm

Al built as fitted 450 mm

Flywheel Shaft, diameter as per Rule Approved as fitted 450 mm Intermediate Shafts, diameter as per Rule 13 1/8" as fitted 18" Thrust Shaft, diameter at collars as per Rule Approved as fitted 450 mm

Tube Shaft, diameter as per Rule as fitted 14.5" Is the (tube) shaft fitted with a continuous liner Yes

Screw Shaft, diameter as per Rule 16 7/8" as fitted 16 7/8"

Bronze Liners, thickness in way of bushes as per Rule 21 1/32" Thickness between bushes as per Rule 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 If so, state type

Length of bearing in Stern Bush next to and supporting propeller 5'-8 1/2"

Propeller, dia. 16'-3" Pitch 12'-3" No. of blades 4 Material Manganese whether moveable No Total developed surface 90 sq. feet

Method of reversing Engines Compound air Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Forced Thickness of cylinder liners 25 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled

Are they 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 Two 42 SW (1st + 2nd each)

Cooling Water Pumps, No. D.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. Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and size ONE BALLAST 10x11x10 ONE BILGE 8x8 1/2 x 8 ONE SAN 8x8 1/2 x 8

How driven 190 TONS/Hr Steam 100 TONS/Hr

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 10x11x10 Power Driven Lubricating Oil Pumps, including spare pump, No. and size ONE 8x11x10 30 TONS/Hr

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 3-3 1/2" dia (1-3" dia in forepeak 2-2 1/2" dia Oil gutter In pump room 2-4" dia

In holds, &c. Independent Power Pump Direct Suctions to the engine room bilges, No. and size 2-6" dia

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

Sea Connections fitted direct on the skin of the Ship Yes Are they fitted with valves or cocks 13 etc Are they fixed efficiently 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 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 Yes Is the shaft tunnel watertight None Is it fitted with a watertight door worked from

Is it 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. Two No. of stages 3 diameters 11 1/2 x 9 1/2 stroke 7 driven by Steam Eng

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

What provision is made for first charging the air receivers Auxiliary Compressors

Scavenging Air Pumps, No. Two Double acting diameter 15.12 mm stroke 5.16 mm driven by M.E. LEVERS

Auxiliary Engines crank shafts, diameter as per Rule as fitted Position

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

S.M.
14/12/49

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Lloyd's Register
Foundation

Rpt. 5a.
Date of writ
No. in
Reg. Book
35045
Master
Engines m
Boilers m
Nominal
MULT
Manufac
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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. ✓ Cubic capacity of each ✓ Internal diameter ✓ thickness ✓ by Rules ✓
Seamless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure ✓
Starting Air Receivers, No. Two ✓ Total cubic capacity 200 cu ft Internal diameter 4-1/2" thickness 1 3/32" STEEL by Rules ✓
Seamless, lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength 29-32 Working pressure Actual 6.000
IS A DONKEY BOILER FITTED Two ✓ If so, is a report now forwarded Yes ✓
Is the donkey boiler intended to be used for domestic purposes only ✓
PLANS. Are approved plans forwarded herewith for shafting Yes ✓ Receivers Yes ✓ Separate fuel tanks Yes ✓
(If not, state date of approval)
Donkey boilers Yes ✓ General pumping arrangements Yes ✓ Pumping arrangements in machinery space Yes ✓
Oil fuel burning arrangements Yes ✓

SPARE GEAR.
Has the spare gear required by the Rules been supplied Yes ✓
State the principal additional spare gear supplied 1- Spare screw shaft 1- Upper & 1- Lower piston skirt 1- Piston head complete
1- Main bearing 1- Cylinder relief valve 1- Starting air non return valve 1- Fuel pump body complete
with valves 1- Turning gear chain 1- 6 feed cylinder lubricator 2- Complete sets of springs of all
types
FOR SWAN, HUNTER & WILKINSON LIMITED
The foregoing is a correct description P.L. Jones Manufacturer.

Dates of Survey while building
During progress of work in shops - (1949) MAY 4, 11, 21, JUN 7, SEPT 30, OCT 5, 29, NOV 5, 14, 26, DEC 10, 15, 20, 22, (1949) JAN 4, 6, 12, 13, 18, 21, 24, 28, FEB 1, 11, 14, 15, 16, 18, 21, 22, 23, 28, MAR 2, 8, 11, 14, 15, 14, 18, 21, 22, 25, 28, 29, APR 1, 5, 7, 8, 12, 13, 14, 19, 21, 22, 26, 29
During erection on board vessel - MAY 2, 3, 4, 5, 6, 9, 11, 12, 16, 20, 24, 25, 26, 30, JUN 3, 4, 9, 10, 13, 17, 22, 23, 24, 28, 29, 30, JUL 6, 8, 18, 19, 20, 22, AUG 4, 8, 9, 11, 23, 25, SEPT 7, 14, 16, 21, 22, 28, 30, OCT 4, 5, 10, 14, 19, 21, 25, 28, NOV 1, 3, 10, 14, 15, 16.
Total No. of visits 122
Dates of examination of principal parts—Cylinders 14-6-49 Covers ✓ Pistons 14-6-49 Rods 8-4-49 Connecting rods 13-4-49
Crank shaft 5-4-49 Flywheel shaft 5-4-49 Thrust shaft 5-4-49 Intermediate shafts 17-2-49 Tube shaft ✓
Screw shaft 28-1-49 Propeller 21-2-49 Stern tube 11-2-49 Engine seatings 30-9-49 Engine holding down bolts 30-9-49
Completion of fitting sea connections 12-4-49 Completion of pumping arrangements 14-10-49 Engines tried under working conditions 14-11-49
Crank shaft, material O.H. Steel Identification mark 15922 Flywheel shaft, material O.H. Steel Identification mark 15922
Thrust shaft, material O.H. Steel Identification mark 15922 Intermediate shafts, material O.H. Steel Identification marks 17144-5
Tube shaft, material ✓ Identification mark ✓ Screw shaft, material O.H. Steel Identification mark 17144-50
Identification marks on air receivers
LLOYD'S TEST
T.P. 800 lbs
W.P. 600 lbs
J.H.M. 11-3-49

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 smothering under boilers B.R. 1-10 gal & 2-2 gal E.R. 1-10 gal & 2-2 gal Foamite
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 ✓
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.)
The machinery of this vessel has been constructed under special survey in accordance with rule requirements & approved plans. Materials & workmanship are good.
The machinery was satisfactorily tested on mooring & sea trials & in my opinion is eligible for classification with records of T.L.M.C. 11, 49, 2 D.B. 150 lbs. T.S.C.L.
Conditions regarding checking of tachometer & fitting of flywheels have been fulfilled.
The foregoing is a correct description & the particulars of the installation as fitted are as approved for torsional vibration characteristics. Letter of approval Sep 24/49
f 1054

The amount of Entry Fee ... £ ✓ : ✓
Special ... £ 212 : 8
Donkey Boiler Fee... £ 58 : 8
AIR RECEIVERS
Travelling Expenses (if any) £ 8 : 0
WELDING-BOILER-PLATE-COLUMNS 13 15
Committee's Minute
Assigned T.L.M.C. 11.49 Oct Eng
2 DB 150 lbs. C.L.
When applied for 29 NOV 1949
When received 19
TUES. 20 DEC 1949
J. H. Matthews
Engineer Surveyor to Lloyd's Register of Shipping
Lloyd's Register Foundation