

REPORT ON OIL ENGINE MACHINERY.

No. 21,148

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No. in Survey held at SYDNEY N.S.W. Date, First Survey 2 Oct 1946 Last Survey 9 Sept 1947
Reg. Book. Number of Visits 16

on the Twin Screw vessel **PANT** Tons Gross 210 Net 113

built at Melbourne Victoria By whom built Johnson's Lume Foundry Ltd Yard No. 44 When built Nov 1945

Engines made at Melbourne Victoria By whom made Ordnance Factory, Maitland, under licence from Ruston Hornsby, England Engine No. 5780-1910 When made Feb 1945

Donkey Boilers made at By whom made Boiler No. When made

Brake Horse Power 183 x 2 Owners The Anglo-Saxon Petroleum Co. Ltd. Port belonging to Sydney N.S.W.

Tom. Horse Power as per Rule 74.8 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Coasting service East Indian Archipelago

IL ENGINES, &c. — Type of Engines Ruston & Hornsby 6VCBM with Modern Wheel Drive 2 to 1 Reduction Gear 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 752 lb per sq. in Diameter of cylinders 8" Length of stroke 10 3/4" No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure Span of bearings, adjacent to the crank, measured from inner edge to inner edge 9 1/2" Is there a bearing between each crank Yes

Revolutions per minute 600 Flywheel dia. 2'-10" Weight 1388.8 lb Means of ignition Compression Kind of fuel used Diesel

Crank Shaft, Solid forged dia. of journals as per Rule 6" Crank pin dia. 4 3/4" Crank webs Mid. length breadth 8" Thickness parallel to axis

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule 4 3/8" Thrust Shaft, diameter at collars as per Rule 4.25" to 4.037"

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule 4.25" Is the shaft fitted with a continuous liner No

Bronze Liners, thickness in way of bushes as per Rule 0.375" 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 2 Liners

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 Painted 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 15 5/8"

Propeller, dia. 56" Pitch 51" No. of blades 3 Material Bronze whether moveable No Total developed surface 8 sq. feet

Method of reversing Engines Gearbox Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes

Means of Lubrication Forced Thickness of cylinder liners 1/4" to 1/2" Are the cylinders fitted with safety valves Yes

Are the exhaust pipes and silencers water cooled Lagged with non-conducting material Yes

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. 3

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. 2 Diameter 3 1/2" Stroke 3 1/2" Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line No. and size Two PLUNGER PUMPS 3 1/2" x 3 1/2" ONE 2 1/2" VIKING INTERNAL GEAR PUMP, CAPACITY 90 GALS PER MIN.

How driven ONE FROM EACH MAIN ENGINE WITH BELT DRIVE FROM AUXY DIESEL ENGINE

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

Are there 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 One 2" plus 2 direct suction as under In pump room

Holds, &c. 2 @ 2" in hold, 1 @ 2" in forward cofferdam, one @ 2" each side in after trap space

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1 @ 2" from Viking type pump and 1 @ 2" from Starb. M.E. Bilge pump

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 Yes

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

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

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 Yes A.E.T. Is it fitted with a watertight door worked from

On 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. Two (2) No. of stages Two (2) diameters 4" L.P. 6.25" H.P. stroke 3" driven by BELTS & CLUTCH FROM MAIN ENGINE

Auxiliary Air Compressors, No. One (1) No. of stages Two (2) diameters 4" L.P. 6.25" H.P. stroke 3" driven by CLUTCH FROM AUXY. ENGINE

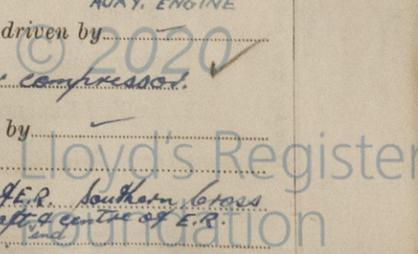
Small Auxiliary Air Compressors, No. No. of stages diameters stroke driven by

What provision is made for first charging the air receivers Hand starting auxiliary engine during auxiliary air compressors

Reversing Air Pumps, No. diameter stroke driven by

Auxiliary Engines crank shafts, diameter as per Rule Kelly 2 3/8" Southern Cross 3" Position Kelly & Lewis & Co. centre of A.E.R. Southern Cross after centre of E.S.

Have the auxiliary engines been constructed under special survey No. Is a report sent herewith Yes



AIR RECEIVERS:—Have they been made under survey No 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 —
 Seamless, lap welded or riveted longitudinal joint ✓ Material — Range of tensile strength — Working pressure —
Starting Air Receivers, No Four (4) Total cubic capacity 44.8 cu. ft. Internal diameter 23 7/8" thickness 5/16"
 Seamless, lap welded or riveted longitudinal joint Butt welded circumferentially no longitudinal joint Material M.S. Range of tensile strength — Working pressure —
IS A DONKEY BOILER FITTED No 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 buring arrangements ✓

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes } In addition to the list, one spare screw shaft and two spare propellers are provided
 State the principal additional spare gear supplied See list attached hereto.

The machinery of this vessel is a duplicate of that fitted in T.S.M.V. BUCKIE (Sydney N.S.W. Rpt. 20830) plans of which are in London office.

The foregoing is a correct description,
B. P. Ziecken Manufacturer.
 Surveyor to Lloyds Register

Dates of Survey after building
 During progress of work in shops 1946 2.25 Oct. 29 Nov. 5.12.19 Dec
 During erection on board vessel 1947 7.13 Jan 5.17.19 Feb. 18 April 21.26 May 8 July 9 Sept
 Total No. of visits —

Dates of examination of principal parts—Cylinders — Covers — Pistons — Rods — Connecting rods —
 Crank shaft — Flywheel shaft — Thrust shaft — 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 — Identification mark — Flywheel shaft, material — Identification mark —
 Thrust shaft, material — Identification mark — Intermediate shafts, material — Identification marks —
 Tube shaft, material — Identification mark — Screw shaft, material — Identification mark —
 Identification marks on air receivers FORD PORT AFT PORT FORD STBD AFT STBD
£62 ↑ 1175 £60 ↑ 1175 £55 ↑ 1175 £56 ↑ 1175
(ALL) TESTED TO 600 LBS. 388-346.

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 Eight 2-gallon hand chemical extinguishers and four water hoses.
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo D.B. tanks, fuel of cargo If so, have the requirements of the Rules been complied with Yes
 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 M.V. BUCKIE

General Remarks (State quality of workmanship, opinions as to class, &c.)
 These main engines were built in accordance with Ruston & Hornsby specification under the inspection of Australian Army Authorities and crank shafts have been verified with approved plan of Ruston & Hornsby (B.V.C.B-235). All machinery has now been examined in accordance with Rule requirements for special service found in good condition, properly installed and has been tested under working conditions with satisfactory results. The materials and workmanship throughout are good. The machinery is, in our opinion, eligible to be classed with records of L.M.C. 9.47 and shafts see 12.46 to be made in the Register Book.

The amount of Entry Fee ... £ ✓ :
 Special ... £ 33 : 0 : } When applied for 9/9/1947
 Donkey Boiler Fee... £ : : } When received 19
 Travelling Expenses (if any) £ : :
 At Leonard & B. P. Ziecken
 Engineer Surveyors to Lloyd's Register of Shipping

(Committee's Minute) FRI. 5 DEC 1947
 Assigned L.M.C. 9.47 (with endorsement)



Certificate (if required) to be sent to Sydney N.S.W. (The Surveyors are requested not to write on or below the space for Committee's Minute.)