

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

23 AUG 1946

Date of writing Report _____ 19 _____ When handed in at Local Office 2 AUG 1946 Port of Sunderland
 No. in Survey held at Sunderland Date, First Survey 2 July 1945 Last Survey 13 Aug 1946
 Reg. Book _____ (Number of Visits 75)
 on the " HESPERIDES " Tons { Gross 5125
 Net 2850
 Built at Sunderland By whom built Supplbuilding Corp. (Leam Branch) Yard No. 9 When built 1946
 Engines made at Sunderland By whom made G. Clark (1938) Ltd Engine No. 1373 When made 1946
 Boilers made at Walsend By whom made Walsend Slipway & Eng. Co. No. 401 B When made 1943
 Registered Horse Power _____ Owners British & South American S. N. Co. Ltd Port belonging to London
 Nom. Horse Power as per Rule 635 = MN Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes
 Trade for which vessel is intended _____

ENGINES, &c.—Description of Engines Triple Expansion Revs. per minute _____
 Dia. of Cylinders 24 1/2" - 39" - 40" Length of Stroke 48" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 13.99" Crank pin dia. 14 3/4" Mid. length breadth 1'-10" Thickness parallel to axis 9"
as fitted 14.25" Crank webs shrunk Mid. length thickness 9" Thickness around eye-hole 6 3/8"
 Intermediate Shafts, diameter as per Rule 13.33" Thrust shaft, diameter at collars as per Rule 13.99"
as fitted 13 5/8" as fitted 14.25"
 Tube Shafts, diameter as per Rule _____ Screw Shaft, diameter as per Rule 14.85" Is the { tube screw } shaft fitted with a continuous liner { Yes }
as fitted _____ as fitted 15 1/4" as fitted 3/4"
 Bronze Liners, thickness in way of bushes as per Rule _____ Thickness between bushes as per Rule 3/4" Is the after end of the liner made watertight in the
as fitted 13/16" as fitted 3/4" 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 one length.
 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 tube
 at no If so, state type _____ Length of Bearing in Stern Bush next to and supporting propeller 5'-1"
 Propeller, dia. 18'-3" Pitch 15'-6" mean No. of Blades 4 Material C.I. whether Moveable no Total Developed Surface 98.5 sq. feet
 Feed Pumps worked from the Main Engines, No. none Diameter _____ Stroke _____ Can one be overhauled while the other is at work _____
 Bilge Pumps worked from the Main Engines, No. Two Diameter 4" Stroke 24" Can one be overhauled while the other is at work Yes
 Feed Pumps { No. and size Two 9 1/2" x 4" x 21" Pumps connected to the Main Bilge Line { No. and size 1 Gun. Svc. pump 9 1/2" x 4" x 21" & Balloon pump }
 { How driven Steam } { How driven Steam }
 Ballast Pumps, No. and size 1 @ 10 1/2" x 13" x 24" Lubricating Oil Pumps, including Spare Pump, No. and size _____
 Are two independent means arranged for circulating water through the Oil Cooler _____ Suctions, connected both to Main Bilge Pumps and Auxiliary
 Bilge Pumps:—In Engine and Boiler Room 1 @ 3" in E.R. 2 @ 3" in Bl. Rm. 1 @ 2 1/2" Jummel well.
 In Pump Room _____ In Holds, &c. Nº. 1. 3" φ RS. Nº. 2. 3" φ RS. Nº. 3. 3" φ RS. Nº. 4. (Deck Tank) 2 1/2" φ RS. Nº. 5. 3" φ RS. Nº. 6. 2 1/2" φ RS. 4 @ 2 1/2" φ RS.
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 9" Independent Power Pump Direct Suctions to the Engine and/or Boiler Room Bilges,
 No. and size 1 @ 5" Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Yes.
 Are the Bilge Suctions in the Machinery Space 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 Both.
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold 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 For hold bilge suction 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 Deck.

MAIN BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 7248 sq ft — Area of Superheaters 2490 sq ft
 Which Boilers are fitted with Forced Draft All Which Boilers are fitted with Superheaters All
 No. and Description of Boilers 3 SB. Working Pressure 220 lbs/sq in
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes. (NWE. 101251/2/3)
 IS A DONKEY BOILER FITTED? no. If so, is a report now forwarded? _____
 Can the donkey boiler be used for other than domestic purposes _____

PLANS. Are approved plans forwarded herewith for Shafting _____ Main Boilers _____ Auxiliary Boilers _____ Donkey Boilers _____
 (If not state date of approval)
 Superheaters _____ General Pumping Arrangements _____ Oil fuel Burning Piping Arrangements Yes
 SPARE GEAR.
 Has the spare gear required by the Rules been supplied Yes.
 State the principal additional spare gear supplied _____

The foregoing is a correct description.

GEORGE CLARK (1938) LTD,
 Manufacturer.
 Resident Manager.



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001941-003005-0170

Dates of Survey while building

During progress of work in shops - - - { 1945 July 2, Sep. 12, 1946 Jan. 15, 23, 26, 27, 29, Dec. 6, 19, 20, 21, 28, 1946 Jan. 2, 10, 15, 18, 21, 22, 23, 25, 28, Feb. 4, 21, 22, 28, Apr. 5, 11, 15, 18, 22, 27, 28, Oct. 1, 2, 9, 10, 11, 15, 16, 18, 21, 26, 30, Nov. 8, 17, 18, 15, 16, 17, 20, 21, 21, 24, 28, 29

During erection on board vessel - - - { June 2, 5, 10, 12, 14, 17, 20, 21, 24, 25, 27, July 1, 2, 7, 9, 12, Aug. 8, 13

Total No. of visits 75

Dates of Examination of principal parts - Cylinders 28/1/46 HP MP LP Slides 25/1/46 Covers No Cyls.

Pistons 13/2/46 Piston Rods 18/3/46 Connecting rods 5/3/46

Crank shaft 18/1/46 Thrust shaft 26/11/45 Intermediate shafts 9/4/46

Tube shaft - Screw shaft 5/3/46 Propeller 15/1/46

Stern tube 22/3/46 + 2/4/46 Engine and boiler seatings 14/6/46 Engines holding down bolts 14/6/46

Completion of fitting sea connections 26/4/46

Completion of pumping arrangements 13/8/46 Boilers fixed 14/6/46 Engines tried under steam 8/8/46

Main boiler safety valves adjusted 8/8/46 Thickness of adjusting washers P.Bh. 5.7/16 Spht. 1/4 but Dh. 8.7/16 Spht. 5/16 P 5.7/16 13/32 No 1343 WHF. 26/11/45

Crank shaft material Ingot Steel Identification Mark 18/1/46 Thrust shaft material Ingot Steel Identification Mark 26/11/45

Intermediate shafts, material Ingot Steel Identification Mark No 1343 WHF 9/4/46 Tube shaft, material - Identification Mark -

Screw shaft, material Ingot Steel Identification Mark No 1343 WHF. 5/3/46 Steam Pipes, material S.D. Steel Test pressure 660 lbs Date of Test 2/2/46, 9/7/46

Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150° F. Yes

Have the requirements of the Rules for the use of oil as fuel been complied with Yes

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo No 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... 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 approved Plans, Specification & the rules of the Society. The materials & workmanship are good.

The boilers, constructed by Wallsend Shipway & Eng. Co. Ld. (New Rpts. 10/251/2 + 3), now fitted with N.E.M. Smoke tube type Superheaters, have also been securely fixed on board the vessel & fitted to burn oil fuel (F.P. above 150° F). Section 20 of the rules has been complied with & safety valves of boilers & Superheaters adjusted under steam to working pressure.

The machinery has been tried under working conditions with satisfactory results & is now eligible in my opinion to have notation $\frac{1}{2}$ L.M.C. 8.46, T.S (C.L), 3 SB (Spht) 220 lbs fitted to burn oil fuel (F.P. above 150° F) 8.46.

Note: The forgings used for the Propeller Shaft, Thrust Shaft & 5 lengths of Intermediate Shafting are of American origin supplied as a free issue to the builder by Deputy Director M.B. (M.P.). The Crank Shaft material & that of the Connecting rods, Piston rods, Crossheads & Eccentric rods was obtained by direction of Director of Navy Contracts, from redundant stock in possession of Messrs J.G. Kincaid & Co. Ltd.

The amount of Entry Fee ... £ 6 : : When applied for, 3/5 Special ... £ 64 : 1 : 2 AUG 1946

25% Specification Dickey Boiler Fee ... £ 16 : - : When received, Travelling Expenses (if any) £ : : 19

D. J. Hasw. Engineer Surveyor to Lloyd's Register of Shipping.

Date ... FRI. 6 SEP 1946

Committee's Minute + L.M.C. 8.46. Fitted for oil fuel 8.46 F.P. above 150° F. F. D. C. L.

