

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 23 AUG 1951

Date of writing Report 10 When handed in at Local Office 2 August 1950 Port of Sunderland.  
 No. in Survey held at Sunderland. Date, First Survey 15 November 1949 Last Survey 26 July 1950  
 Reg. Book. on the 1/8 "BRENT KNOLL" (Number of Visits 60)  
 Built at Sunderland. By whom built S.P. Austin & Son. Ltd Yard No. 404 Tons { Gross 1362 Net 660  
 Engines made at Sunderland. By whom made H.E. Marine Eng Co (1938) Ltd Engine No. 4200 When built 1950.  
 Boilers made at Sunderland. By whom made H.E. Marine Eng Co (1938) Ltd Boiler No. 4200 When made 1950.  
 Registered Horse Power Service 750 @ 83 r.p.m. Owners British Electricity Authority Port belonging to London.  
Trial 850 @ 87 r.p.m. Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes.  
 Nom. Horse Power as per Rule MN 247  
 Trade for which Vessel is intended Collier.

ENGINES, &c.—Description of Engines Triple expansion reciprocating Revs. per minute See above.  
 Dia. of Cylinders 16", 25" & 45" Length of Stroke 33" No. of Cylinders 3. No. of Cranks 3.  
 Crank shaft, dia. of journals as per Rule 9.249 Crank pin dia. 9.45" Mid. length breadth 16" Thickness parallel to axis 6"  
 as fitted 9.5" Crank webs shrunk Mid. length thickness 6" Thickness around eye-hole 4.845"  
 Intermediate Shafts, diameter as per Rule 8.834 Thrust shaft, diameter at collars as per Rule 9.249  
 as fitted 9.125" as fitted 9.5"  
 Tube Shafts, diameter as per Rule --- Screw Shaft, diameter as per Rule 9.849 Is the --- shaft fitted with a continuous liner yes.  
 as fitted --- as fitted 10.25" Is the --- screw ---  
 Bronze Liners, thickness in way of bushes as per Rule .5948 Thickness between bushes as per Rule .4482  
 as fitted .45 as fitted .6845 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 the tube shaft No  
 If so, state type --- Length of Bearing in Stern Bush next to and supporting propeller 4'-0"  
 Propeller, dia. 12'-6" Pitch 13'-2" No. of Blades 4 RH Material G.I whether Moveable No Total Developed Surface 51.0 sq. feet  
 Feed Pumps worked from the Main Engines, No. 2 Diameter 3 Stroke 16 1/2" Can one be overhauled while the other is at work yes  
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 3 Stroke 16 1/2" Can one be overhauled while the other is at work yes  
 Feed Pumps { No. and size 1 - 4" x 5" x 12" Pumps connected to the { No. and size 1 - 10" x 9" x 24", 1 - 4" x 5" x 18"  
 How driven Steam Main Bilge Line How driven Steam  
 Ballast Pumps, No. and size 1 - 10" x 9" 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 to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 1 - ER well 2 1/2", 2 @ 2 1/2" in boiler room.  
 In Pump Room --- In Holds, &c. No. 1 hold 2 @ 2 1/2", No. 2 hold 2 @ 2 1/2"

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 6" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 4"  
 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 yes.  
 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 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 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 none. Is it fitted with a watertight door --- worked from ---

MAIN BOILERS, &c.—(Letter for record Both.) Total Heating Surface of Boilers 2950 sq + 1150 S.H.  
 Which Boilers are fitted with Forced Draft Both. Which Boilers are fitted with Superheaters Both.  
 No. and Description of Boilers 2. S.E. multitubular Working Pressure 220 lbs.  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes.  
 IS A DONKEY BOILER FITTED? no. If so, is a report now forwarded? ---  
 Can the donkey boiler be used for domestic purposes only ---  
 PLANS. Are approved plans forwarded herewith for Shafting yes Main Boilers yes Auxiliary Boilers --- Donkey Boilers ---  
 (If not state date of approval) Superheaters --- General Pumping Arrangements 30.7.48. Oil fuel Burning Piping Arrangements ---

SPARE GEAR.  
 Has the spare gear required by the Rules been supplied yes.  
 State the principal additional spare gear supplied See attached list.

THE NORTH EASTERN MARINE ENGINEERING CO. (1988) LTD.

The foregoing is a correct description.

*[Signature]*

RESIDENT MANAGER. Manufacturer.



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DC241 L. (MADE IN ENGLAND.)

1949 Nov 15, 23, 24 Dec 9, 20, 29 / 1950 Jan 10, 16, 17 Feb 3, 16 Mar 3, 8, 16, 24, 27 Apr 11, 17, 18, 19, 26 May 4, 5, 8, 9, 10, 11.  
 During progress of work in shops - - 17, 18, 19, 22, 25, 30, 24, 26, 31(2) Jun 2, 5, 6(2), 8, 9, 13, 14, 16, 22, 23, 26, 28, 29, 30 Jul 6, 7, 10, 14, 20, 26  
 Dates of Survey while building  
 During erection on board vessel - - -  
 Total No. of visits 60

Dates of Examination of principal parts—Cylinders 3-2-50 Slides 3-2-50 Covers 3-2-50  
 Pistons 16-2-50 Piston Rods 16-2-50 Connecting rods 10-5-50  
 Crank shaft 8-3-50 Thrust shaft 2-6-50 Intermediate shafts ~  
 Tube shaft ~ Screw shaft 24-5-50 Propeller 24-5-50.  
 Stern tube 23-5-50 Engine and boiler seatings 24-5-50 Engines holding down bolts 22-6-50.  
 Completion of fitting sea connections 24-5-50  
 Completion of pumping arrangements 14-7-50 Boilers fixed 4-6-50 Engines tried under steam 14-7-50  
 Main boiler safety valves adjusted 14-7-50 Thickness of adjusting washers P 13/64 S 3/8 ~ P 5/16 S 3/4 P Spt 2/32 S Spt 1/16  
 Crank shaft material Steel Identification Mark 4200.JL. 8-3-50 Thrust shaft material Steel Identification Mark 2813.JL 2-6-50  
 Intermediate shafts, material ~ Identification Marks ~ Tube shaft, material ~ Identification Mark ~  
 Screw shaft, material Steel Identification Mark 2814.JL. 24-5-50 Steam Pipes, material Steel Test pressure 660 lbs Date of Test 6-6-50  
 Is an installation fitted for burning oil fuel NO. ✓ Is the flash point of the oil to be used over 150°F. ~ 13-6-50 16-6-50

Have the requirements of the Rules for the use of oil as fuel been complied with ~  
 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 yes If so, state name of vessel "Poole Harbour".

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 the approved plans, Secretary's letter and the requirements of the Rules. The workmanship and materials are good.  
 This machinery has been fitted on board the vessel and tried under working conditions, found to be satisfactory and is eligible in my opinion for the record of LMC -50, TS(CL). 2 SB. Spt., 220 lbs. FD.

A Satisfactory sea trial was carried out on 26<sup>th</sup> July 1950.

The amount of Entry Fee ... £ : : When applied for,  
 Special ... £ 98 : 16 : AUG - 2 1950  
 Donkey Boiler Fee ... £ : : When received,  
 Travelling Expenses (if any) £ : : 19

John Underquay  
 Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 1 SEP 1950

Committee's Minute

Assigned + LMC 7.50.  
 F.D. C.L. 2 SB 220lb. Spt.



Certificate to be sent to SUNDERLAND  
 The Surveyors are requested not to write on or below the space for Committee's Minute.