

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY

FEB 12 1938

Date of writing Report 19 When handed in at Local Office 10 FEB. 1938 Port of SUNDERLAND.  
 No. in Survey held at Sunderland Date, First Survey 31<sup>st</sup> March 37 Last Survey 4<sup>th</sup> Feb 1938  
 Reg. Book. on the S.S. GEMSTONE (Number of Visits 95) Gross 4986 Tons Net 2941  
 Built at Sunderland By whom built J. J. Lang & Son Ltd Yard No. 718 When built 1938  
 Engines made at Sunderland By whom made N.E. Marine Eng. Co. Ltd. Engine No. 2878 When made 1938  
 Boilers made at Sunderland By whom made N.E. Marine Eng. Co. Ltd. Boiler No. 2878 When made 1938  
 Registered Horse Power Owners The Minister S.S. Co. Ltd Port belonging to London  
 Nom. Horse Power as per Rule 353 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, Poppet valves on H.P. cyl. Revs. per minute  
 Dia. of Cylinders 21 1/2", 37", 62" Length of Stroke 42" No. of Cylinders 3 No. of Cranks 3  
 Crank shaft, dia. of journals as per Rule 12 5/8" Crank pin dia. 12 5/8" Crank webs Mid. length breadth shrunk Thickness parallel to axis 7 1/2", 12 5/8"  
 as fitted 12 5/8" Mid. length thickness shrunk Thickness around eye-hole 6 3/4", pin 6 1/2"  
 Intermediate Shafts, diameter as per Rule 12 1/8" Thrust shaft, diameter at collars as per Rule 12 5/8"  
 as fitted 12 1/8" as fitted 12 5/8"  
 Tube Shafts, diameter as per Rule 14" Is the tube screw shaft fitted with a continuous liner yes  
 as fitted 14" as fitted 14"  
 Bronze Liners, thickness in way of bushes as per Rule 3/4" Thickness between bushes as per Rule 2 1/32" 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' 9"  
 Propeller, dia. 17' 6" Pitch 18 3/4" No. of Blades 4 Material Bronze whether Moveable not Total Developed Surface 99.5 sq. feet  
 Feed Pumps worked from the Main Engines, No. 2 Diameter 3 1/2" Stroke 1' 10 1/2" Can one be overhauled while the other is at work yes  
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 3 1/2" Stroke 1' 10 1/2" Can one be overhauled while the other is at work yes  
 Feed Pumps No. and size 2, 6" x 8 1/2" x 18" Pumps connected to the Main Bilge Line No. and size one, 9" x 11" x 10"  
 How driven 3 main. How driven steam.  
 Ballast Pumps, No. and size one, 9" x 11" x 10" 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 3" dia. one port, one starboard in Eng. Room 3" dia. one port & one starboard in Boiler Room In Holds, &c. Main Hold 2 @ 3 1/2" Main Hold "A" 2 @ 2 1/2" dia.  
 In Pump Room In Hold 2 @ 3" dia. after main hold 2 @ 3" dia. after hold 2 @ 3" dia. Tunnel one @ 2 1/2" dia.  
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1, 7" dia. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1, 5" dia.  
 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 both  
 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 3 Hold Suctions How are they protected bilge liners  
 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 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 above  
 Is the Shaft Tunnel watertight

MAIN BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 5087 sq. ft. Submerged deck in SR. MB. 3852  
 Is Forced Draft fitted on main engines and Description of Boilers 3 multi-tubular cylindrical Working Pressure 220 lbs.  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes  
 IS A DONKEY BOILER FITTED? no Aux. Suction 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 1/12/36 Main Boilers yes Auxiliary Boilers yes Donkey Boilers  
 (If not state date of approval) retained for  
 Superheaters General Pumping Arrangements no 3852 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  
 one propeller shaft main circulating pump: 1 piston rod, 1 valve spindle  
 one oil rings for I.P. piston 1 set of piston & 1 set of valve and bearings  
 4 main cylinder tubes & 25 journals  
 3 main check valve lids  
 4 Gunter check valve lids  
 2 Blow down & 2 Ocean valve lids  
 6 plain tubes for main boiler  
 6 plain tubes for Gunter boiler

The foregoing is a correct description,  
 FOR THE NORTH EASTERN MARINE ENGINEERING CO. LTD.

Archd. J. Berry  
 GENERAL MANAGER.

Manufacturer.



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Lloyd's Register  
 Foundation

7500-OLIM



1937. *March 31 April 6 19 26 May 7 19 25 June 17 29 July 2 6 8 13 15 16 20 22 27 28*  
 During progress of work in shops -- *30 Aug 4 6 10 13 17 18 19 23 26 31 Sep 1 2 7 9 13 15 16 17 23 24 27 29 Oct 5 6 7 8 15 18*  
 Dates of Survey while building During erection on board vessel -- *19 26 Nov 5 10 15 16 19 23 25 26 29 30 Dec 1 2 3 6 7 8 9 10 13 14 15 16 20 21 22 23*  
*28 29 30 1938 Jan 5 6 10 11 14 17 18 19 20 21 22 24 26 28 Feb 4*  
 Total No. of visits *95*

Dates of Examination of principal parts—Cylinders *25/11/37* Slides *64 20/12/37* Covers *26/11/37*  
 Pistons *2/12/37* Piston Rods *2/12/37* Connecting rods *2/12/37*  
 Crank shaft *16/9/37 26/11/37* Thrust shaft *26/11/37* Intermediate shafts *29/12/37*  
 Tube shaft — Screw shaft *10/1/38* Propeller *10/1/38*  
 Stern tube *6/12/37* Engine and boiler seatings *28/12/37* Engines holding down bolts *26/1/38*  
 Completion of fitting sea connections *28/12/37*  
 Completion of pumping arrangements *4/2/38* Boilers fixed *19/1/38* Engines tried under steam *28/1/38*  
 Main boiler safety valves adjusted *28/1/38* Thickness of adjusting washers *Port 5/16" std & port 1/4" Superheat. Aux? 5/16" port & std.*  
 Crank shaft material *Steel* Identification Mark *9886* Thrust shaft material *Steel* Identification Mark *25*  
 Intermediate shafts, material *Steel* Identification Marks *173* Tube shaft, material — Identification Mark —  
 Screw shaft, material *Steel* Identification Mark *24* Steam Pipes, material *Steel* Test pressure *660 lb* Date of Test *30/11/37 22/1/38*  
 Is an installation fitted for burning oil fuel *no* Is the flash point of the oil to be used over 150°F. —  
 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 *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 required*  
 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 the approved plans, Secretary's letters and the requirements of the Rules. Workmanship and materials are good.*

*The machinery has been efficiently fitted on board and tried under working conditions with satisfactory results and is eligible, in my opinion, for the*

NOTATION + L.M.C. 2.38

*L.R. Home*

The amount of Entry Fee ... £ *5* : : When applied for,  
 Special ... £ *77:19* : : 19  
 Donkey Boiler Fee ... £ : : :  
 Travelling Expenses (if any) £ : : : *12/2 38*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE 1 MAR 1938*

Assigned *+ Lmb 2.38*

*5.4 85. 9.0. 1 amp 10*



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