

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 6th August 1929 When handed in at Local Office 6 AUG 1929 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey Mar 6 Last Survey Aug 3 1929  
Reg. Book. 42213 on the S.S. "SARASTONE" (Number of Visits 32)

Built at Burntisland By whom built Messrs. The Burntisland Shipbuilding Co. Ltd. Yard No. 154 Tons 224  
Engines made at Sunderland By whom made Messrs. The North Eastern Marine Eng. Co. Ltd. Engine No. 2698 when built 1929

Boilers made at Sunderland By whom made Messrs. The North Eastern Marine Eng. Co. Ltd. Boiler No. 2698 when made 1929

Registered Horse Power 224 Owners Stone & Rolfe, Ltd. Port belonging to Glasgow  
Nom. Horse Power as per Rule 224 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

Trade for which Vessel is intended General Cargo

ENGINES, &c.—Description of Engines Triple Expansion - Single Screw.  
Dia. of Cylinders 20", 33", 54" Length of Stroke 36" No. of Cylinders 3 Revs. per minute 74

Crank shaft, dia. of journals 10 3/8" as per Rule 10 3/8" as fitted 10 3/8" Crank pin dia. 10 5/8" Crank webs shrink Mid. length breadth 6 1/2" Thickness parallel to axis 5 5/16"  
Intermediate Shafts, diameter 9 5/8" as per Rule 9 5/8" as fitted 10 3/8" Thrust shaft, diameter at collars 10 3/8" as per Rule 10 3/8" as fitted 10 5/8"

Tube Shafts, diameter 11 1/8" as per Rule 11 1/8" as fitted 11 1/8" Screw Shaft, diameter 11 1/8" as per Rule 11 1/8" as fitted 11 1/8" Is the screw shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes 1/16" as per Rule 1/16" as fitted 1/16" Thickness between bushes 1/16" as per Rule 1/16" as fitted 1/16" 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 Yes  
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 Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft no

Length of Bearing in Stern Bush next to and supporting propeller 3'-11 1/2"  
Propeller, dia. 15'-6" Pitch 14'-6" No. of Blades 4 Material Cast Iron whether Movable no Total Developed Surface 70 sq. feet

Feed Pumps worked from the Main Engines, No. 2 Diameter 3" Stroke 21" 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 21" Can one be overhauled while the other is at work Yes

Feed Pumps { No. and size 1-6"x4"x6" How driven Steam Pumps connected to the Main Bilge Line { No. and size 1-8"x9"x8" How driven Steam  
Ballast Pumps, No. and size 1-8"x9"x8" Lubricating Oil Pumps, including Spare Pump, No. and size 1

Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 3 @ 2 1/2" DIAM. 1 @ 2 1/2" DIAM. (TUNNEL WELL)  
In Holds, &c. Fore Hold 2 @ 3/4" Dia, aft Hold 2 @ 3" Dia, aft Hold Well 1 @ 3" Dia.

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 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 MAIN - Below, OTHERS - 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 Yes  
What pipes pass through the deep tanks Yes 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 top platform.

MAIN BOILERS, &c.—(Letter for record (S)) Total Heating Surface of Boilers 3926 sq. ft.  
Is Forced Draft fitted no No. and Description of Boilers Two - Single Ended Marine Type Working Pressure 180 lbs. sq. in.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes  
IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? Yes

PLANS. Are approved plans forwarded herewith for Shafting Yes Main Boilers Yes Auxiliary Boilers Yes Donkey Boilers Yes  
(If not state date of approval) Superheaters Yes General Pumping Arrangements Yes (with Ship Report) Oil fuel Burning Piping Arrangements Yes

SPARE GEAR. State the articles supplied:— One - C.I. Propeller; 2 - Bottom End Bolts & nuts; 2 - Top End Bolts & nuts; 2 - Main Bearing Bolts & nuts; 6 - Shaft Coupling Bolts & nuts; 2 - Feed Pump Valves; 2 - Bilge Pump Valves; 20 - Assorted Bolts & nuts; 1/2 cwt. of Iron Plate; 1/2 cwt. of Iron Bar.

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

John Neill  
Manager

Manufacturer.



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Foundation  
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59002

1929. Mar. 6, 26. Apr. 4, 5, 22, 24, 26. May 6, 18, 14, 22, 23, 24, 20, 31. June 4, 5, 7, 10, 12, 18. *July 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Aug. 2.*

Dates of Survey while building

During progress of work in shops - - -

During erection on board vessel - - -

Total No. of visits **32**

Dates of Examination of principal parts - Cylinders **22.4.29** Slides **24.5.29** Covers **22.4.29**

Pistons **4.4.29** Piston Rods **26.3.29** Connecting rods **6.3.29**

Crank shaft **6.5.29** Thrust shaft **6.5.29** Intermediate shafts **7.6.29**

Tube shaft  Screw shaft **18.6.29** Propeller **5.6.29**

Stern tube **8.7.29** Engine and boiler seatings **15.7.29** Engines holding down bolts **25.7.29**

Completion of fitting sea connections **5 - 7.29 (Lith.)**

Completion of pumping arrangements **3-8-29** Boilers fixed **17.7.29** Engines tried under steam **30.7.29.**

Main boiler safety valves adjusted **30.7.29.** Thickness of adjusting washers **S.F. 1/2" S.A. 1/2" P.F. 1/2" P.A. 1/2"**

Crank shaft material **Siemens Steel** Identification Mark **A.C. 1341.** Thrust shaft material **Siemens Steel** Identification Mark **A.C. 1341.**

Intermediate shafts, material **Siemens Steel** Identification Marks **A.C. 1341 (Six lengths)** Tube shaft, material  Identification Mark

Screw shaft, material **Siemens Steel** Identification Mark **A.C. 1341** Steam Pipes, material **Steel** Test pressure **540 lbs** Date of Test **26.7.29**

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 carrying and burning oil fuel 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 Engines and Boilers have been built under Special Survey and Satisfactorily fitted in the Vessel. The Materials and Workmanship are good. On Completion the Machinery was tried under a full head of Steam with Satisfactory results. The Machinery throughout is now in a good and efficient Condition and eligible in our opinion for classification and the notation :- L.M.C. S, 29.**

It is submitted that this vessel is eligible for **THE RECORD.** + dmb 8.29 CL.

**APR 1929** 7/5/29

CERTIFICATE WRITTEN.

SUNDERLAND.

The amount of Entry Fee ... £ 4 : 0 :  
 Special ... £ 56 : 0 :  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) £ : :

When applied for, **8 AUG 1929**  
 When received, **7.8.29**

**Alfred Lee & A. T. Griffith.**  
 Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute **WED. 7 AUG 1929**  
 Assigned **+ dmb 8.29 CL**

