

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 6 JAN 1932

Date of writing Report 19 When handed in at Local Office 4. 1. 1932 Port of **GLASGOW.**
 No. in Survey held at **Yroon** Date, First Survey 14. 5. 31 Last Survey 2 - 1 - 1932
 Reg. Book. on the **SS. "THE SULTAN"** (Number of Volls 32) Tons { Gross 824 Net 405
 Built at **Yroon** By whom built **Ailsa S.B. Co Ltd** Yard No. **418** When built **1932**
 Engines made at **Yroon** By whom made **Ailsa S.B. Co Ltd** Engine No. **153** When made **1932**
 Valves made at **Glasgow** By whom made **D Rowan & Co Ltd** Boiler No. **385** When made **1931**
 Registered Horse Power Owners **J. Hay & Sons Ltd** Port belonging to **Glasgow**
 Net Horse Power as per Rule **115** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**
 Trade for which Vessel is intended **Coasting**

GINES, &c.—Description of Engines **Triple Expansion** Revs. per minute **94**
 Dia. of Cylinders **14", 23 1/2" & 39"** Length of Stroke **30"** No. of Cylinders **3** No. of Cranks **3**
 Crank shaft, dia. of journals as per Rule **4.96** Crank pin dia. **8 1/8"** Crank webs Mid. length breadth **15 1/2"** Thickness parallel to axis **5"**
 as fitted **8 1/8"** Mid. length thickness **5"** shrunk Thickness around eye-hole **3 9/16"**
 Intermediate Shafts, diameter as per Rule **4.56** Thrust shaft, diameter at collars as per Rule **4.96**
 as fitted **None** as fitted **8 1/8"** **Michell**
 Main Shafts, diameter as per Rule **8.54** Is the **tube** shaft fitted with a continuous liner **Yes**
 as fitted **8 3/4"** as fitted **8 3/4"** Is the **screw** shaft fitted with a continuous liner **Yes**
 Bronze Liners, thickness in way of bushes as per Rule **5.56** Thickness between bushes as per Rule **4.14**
 as fitted **5/8"** as fitted **5/8"** 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 **Close fit**
 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 **—**
 If so, state type **—** Length of Bearing in Stern Bush next to and supporting propeller **2'-11"**
 Propeller, dia. **11'-6"** Pitch **12'-0"** No. of Blades **4** Material **C. Iron** whether Movable **No** Total Developed Surface **45.4** sq. feet
 Bilge Pumps worked from the Main Engines, No. **2** Diameter **2 1/8"** Stroke **15"** Can one be overhauled while the other is at work **Yes**
 Main Bilge Pumps worked from the Main Engines, No. **2** Diameter **2 5/8"** Stroke **15"** Can one be overhauled while the other is at work **Yes**
 Feed Pumps { No. and size **1 Duplex 6" x 4 1/4" x 6"** Pumps connected to the { No. and size **1 Duplex 4" x 8" x 8"**
 How driven **Steam** Main Bilge Line { How driven **Steam**
 Ballast Pumps, No. and size **1 @ 4" x 8" x 8"** 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 @ 2 1/4"** In Holds, &c. **2 @ 3"**

Main Water Circulating Pump Direct Bilge Suctions, No. and size **1 @ 4"** Independent Power Pump Direct Suctions to the Engine Room Bilges,
 No. and size **1 @ 3"** 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 **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**
 Do the Pipes pass through the bunkers **Hold bilge suction** How are they protected **Wood protected**
 Do the 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 **None** Is it fitted with a watertight door **—** worked from **—**

MAIN BOILERS, &c.—(Letter for record **(S)**) Total Heating Surface of Boilers **2021** sq. ft.
 Forced Draft fitted **No** No. and Description of Boilers **One S.B.** Working Pressure **200 lbs.**
IS A REPORT ON MAIN BOILERS NOW FORWARDED? **Yes** (**Gr 51816**)
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 Main Boilers **Yes** Auxiliary Boilers **—** Donkey Boilers **—**
 (If not state date of approval) Superheaters **—** General Pumping Arrangements **—** 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 **Two Connecting rod top end bolts & nuts. Two bottom end bolts and nuts. Two main bearing bolts one set of coupling bolts one set of feed & bilge pump valves. A quantity of assorted bolts & nuts & iron of various sizes.**

The foregoing is a correct description,
 FOR AILSA SHIPBUILDING CO., LIMITED

J. M. Mungton
 ENGINEER MANAGER

Manufacturer.



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 Foundation

W1142-0028

Dates of Survey while building:

 During progress of work in shops: 1931 May: 14, 19, 26 June: 2, 15, 18, 25, 30 July: 6, 15 Aug: 5, 6, 11, 17, 19, 26, 28 Sep: 7, 11, 15

 29 Oct: 13 Nov: 18 Dec: 2, 10, 16, 18, 25, 29 (1932) Jan: 2

 Total No. of visits: 32

Dates of Examination of principal parts—Cylinders 14-8-31 Slides 19-8-31 Covers 14-8-31

 Pistons 19-8-31 Piston Rods 5-8-31 Connecting rods 5-8-31

 Crank shaft 5-8-31 Thrust shaft 15-6-31 Intermediate shafts —

 Tube shaft — Screw shaft 11-9-31 Propeller 4-9-31

 Stern tube 4-9-31 Engine and boiler seatings 29-9-31 Engines holding down bolts 18-12-31

 Completion of fitting sea connections 16-9-31

 Completion of pumping arrangements 25-12-31 Boilers fixed 16-12-31 Engines tried under steam 29-12-31

 Main boiler safety valves adjusted 25-12-31 Thickness of adjusting washers PORT Valve 5/16" STAR Valve 1/32"

 Crank shaft material S Identification Mark LLOYDS N° 8951 Thrust shaft material S Identification Mark LLOYDS N° 8953

 Intermediate shafts, material — Identification Marks DCB. 5-8-31 Tube shaft, material — Identification Mark DCB 15-6-31

 Screw shaft, material S Identification Mark LLOYDS N° 4419 PCB. 11-9-31 Steam Pipes, material Copper Test pressure 400 lbs Date of Test 18-11-31

 Is an installation fitted for burning oil fuel 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 — 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 "The Emperor" GLS REPORT 5017

General Remarks (State quality of workmanship, opinions as to class, &c. *The Machinery has been built under special survey in accordance with the Rules of the Society.*

The Workmanship and Materials are of good quality.

The Engines and Boiler have been recently fitted on board and tried under working conditions with satisfactory results.

It is submitted that this vessel is eligible for Record of L.M.C. 1-32 in the Register.

A. G. 41/32

GLASGOW

The amount of Entry Fee ... £ 3 : - :

 Special ... £ 17 : 5 :

 Donkey Boiler Fee ... £ : :

 Travelling Expenses (if any) £ 3 : 5 :

 When applied for, 5-JAN-1932

 When received, 8.1.1932

David C Barr, J. J. Barr.

 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 5-JAN-1932

Assigned + LMC 1.32

CERTIFICATE WRITTEN

