

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Date of writing Report 10 When handed in at Local Office 16 MAY 1935 Port of SUNDERLAND Received at London Office 17 MAY 1935

No. in Survey held at SUNDERLAND. Date, First Survey Jan 30 Last Survey May 16 1935 Reg. Book. on the Steel Screw Steamer "CRAGSIDE" (Number of Visits 39)

Built at Haverton Hill By whom built Furness Shipbuilding Co. Ltd. Yard No. 245. When built 1935. Engines made at Sunderland By whom made North Eastern Marine Eng. Co. Ltd. No. 2819. When made 1935. Boilers made at Sunderland By whom made North Eastern Marine Eng. Co. Ltd. No. 2819. When made 1935. Registered Horse Power 48 MN. Owners Type-Seas Shipping Co. Ltd. Port belonging to Stockton. Nom. Horse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes. Trade for which Vessel is intended Coasting.

ENGINES, &c.—Description of Engines Triple Expansion Revs. per minute 106. Dia. of Cylinders 12"-20"-33" Length of Stroke 24" No. of Cylinders 3. No. of Cranks 3. Crank shaft, dia. of journals as per Rule 6.65 as fitted 6 3/4" Crank pin dia. 6 3/4" Crank webs Mid. length breadth 14 1/4" Thickness parallel to axis 4 1/4" Mid. length thickness 4 1/4" shrunk Thickness around eye-hole 3 3/8" Intermediate Shafts, diameter as per Rule 6.335 as fitted none Thrust shaft, diameter at collar's as per Rule 6.65 as fitted 4" Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 4.064 as fitted 4 1/4" Is the (tube screw) shaft fitted with a continuous liner Yes. Bronze Liners, thickness in way of bushes as per Rule .51 as fitted 9/16" Thickness between bushes as per Rule .382 as fitted 1/2" 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 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 fit. 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. If so, state type Length of Bearing in Stern Bush next to and supporting propeller 2'-5" Propeller, dia. 8'-9" Pitch 10'-0" No. of Blades 4. Material C.I. whether Movable no. Total Developed Surface 28 sq. feet Feed Pumps worked from the Main Engines, No. 2 Diameter 2 1/4" Stroke 1'-1/2" Can one be overhauled while the other is at work Yes. Bilge Pumps worked from the Main Engines, No. 2 Diameter 2 1/4" Stroke 1'-1/2" Can one be overhauled while the other is at work Yes. Feed Pumps No. and size Two 5 1/2" x 3 1/2" x 5" duplex Pumps connected to the Main Bilge Line No. and size one 6" x 6" x 6" duplex How driven Steam How driven Steam Ballast Pumps, No. and size One 6" x 6" x 6" duplex 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 one 2" dia. Eng. Room well 2 @ 2 1/2" Boiler room. In Pump Room none. In Holds, &c. Main Hold 2 @ 2 1/2" dia.

Main Water Circulating Pump Direct Bilge Suctions, No. and size one 3" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size one 3 1/2" 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. What Pipes pass through the bunkers Hold bilge suction How are they protected wooden casing. What pipes pass through the deep tanks 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 none Is it fitted with a watertight door worked from

MAIN BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 1420 sq. ft. Is Forced Draft fitted no. No. and Description of Boilers 2 SE. Working Pressure 200. IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes. IS A DONKEY BOILER FITTED? no. If so, is a report now forwarded? Are approved plans forwarded herewith for Shafting Main Boilers Yes. Auxiliary Boilers Donkey Boilers 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 One C.I. Propeller, one Propeller Shaft, 2 main + 2 auxiliary feed check valves, one Set air pump valves, one pair bottom end brasses, 25 Condenser tubes & ferrules, one air pump rod & nuts, 6 plain boiler tubes, 2 Safety valve Springs, 1 eccentric strap, one Complete set of valves & guards for feed donkey pump.

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

Archie J. Berry. MANAGER

Manufacturer.



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004418-004425-0117

Dates of Survey while building
 During progress of work in shops --
 During erection on board vessel --
 Total No. of visits

1935. Jan. 30 Feb. 4, 6, 8, 11, 15, 18, 20, 22, 25, 27. Mar. 1, 4, 6, 8, 11, 13, 18, 20, 21, 22, 23, 25, 27, 29.
 Apr. 1, 5, 8, 12, 17, 18, 24, 29. May 1, 3, 7, 8, 12, 16

Dates of Examination of principal parts—Cylinders *Feb. 18, 20, 25* MARCH 4. 25 Slides 29/3/35 Covers 12/4/35
 Pistons 8/3/35 Piston Rods 5/4/35 Connecting rods 5/4/35
 Crank shaft 27/2/35 4/3/35 6/3/35 Thrust shaft 18/3/35 Intermediate shafts ✓
 Tube shaft 18/3/35 Screw shaft 6/3/35 18/4/35 24/4/35 Propeller 24/4/35
 Stern tube 24/4/35 Engine and boiler seatings 3/5/35 Engines holding down bolts 8/5/35
 Completion of fitting sea connections *See Muller's Rpt.*
 Completion of pumping arrangements 16/5/35 Boilers fixed 3/5/35 Engines tried under steam 10/5/35
 Main boiler safety valves adjusted 10/5/35 Thickness of adjusting washers *Port. Pdn. A 3/8" S.A. Pl. A. 3/8"*
 Crank shaft material *S.M. Ingot Steel* Identification Mark *N° 7778 W.H.F. 18/3/35* Thrust shaft material *S.M. Ingot Steel* Identification Mark *N° 7778 W.H.F. 18/3/35*
 Intermediate shafts, material Identification Marks Tube shaft, material Identification Mark
 Screw shaft, material *Steel* Identification Mark *N° 7778 W.H.F. 24/4/35* Steam Pipes, material *S.P. Steel* Test pressure 600 Date of Test 4/5/35
 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 ✓
 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.)

This machinery has been built under Special Survey in accordance with the Rules of the Society. The materials & workmanship are good. The machinery has been securely fitted on board the vessel & tried under Steam with satisfactory results & is eligible in my opinion to have the notation L.M.C. 5.35 T.S (CL) in the Register's Book.

The amount of Entry Fee ... £ 2 : - : When applied for, 16 MAY 1935
 Special ... £ 19 : 10 :
 Donkey Boiler Fee ... £ - : - : When received, 28.5 1935
 Travelling Expenses (if any) £ : : 29/5

W. H. Hasw.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 31 MAY 1935**
 Assigned + LMC 5.35 CL



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

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