

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office.

Date of writing Report 19 When handed in at Local Office 12 Mch 1943 Port of **SUNDERLAND**
 No. in Survey held at **Sunderland** Date, First Survey 5 Nov 42 Last Survey 9 Mch 1943
 Reg. Book (Number of Visits 19)
 on the **J4440 'GRUINARD'** Tons {Gross 453
 Built at **Sunderland** By whom built **J. Brown & Sons, Ltd.** Yard No. **205** When built **1943**
 Engines made at **Hull** By whom made **C. D. Holmes, Ltd.** Engine No. **1644** When made **1943**
 Boilers made at **W. Hartlepool** By whom made **Can. Mar. Eng. Wks.** Boiler No. **R356** When made **1943**
 Registered Horse Power Owners **The Admiralty** Port belonging to
 Nom. Horse Power as per Rule **156** Is Refrigerating Machinery fitted for cargo purposes **no** Is Electric Light fitted **yes**
 Trade for which vessel is intended **Admiralty Service**

ENGINES, &c.—Description of Engines **See Hull Report No. 51916**
 Dia. of Cylinders **13 1/2", 23", 38"** Length of Stroke **27"** No. of Cylinders **3** Revs. per minute
 as per Rule **7.5** No. of Cranks **3**
 Crank shaft, dia. of journals **7 7/8"** Crank pin dia. **7 7/8"** Mid. length breadth **—** Thickness parallel to axis **4 13/16"**
 as fitted **7 7/8"** Crank webs **—** shrunk Thickness around eye-hole **3 5/16"**
 as per Rule **7.15"** Intermediate Shafts, diameter **7 1/4"** Thrust shaft, diameter at collars **7 7/8"**
 as fitted **7 1/4"** as per Rule **7.5"**
 Tube Shafts, diameter **—** as fitted **—** Screw Shaft, diameter **8.30" 8.20"**
 as fitted **—** as fitted **8 1/4"** Is the {tube screw} shaft fitted with a continuous liner {**no**}
 as per Rule **—** as fitted **—** Thickness between bushes **—** Is the after end of the liner made watertight in the
 as fitted **—** as fitted **—** propeller boss **—** 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
 at **yes** If so, state type **Kewark** Length of Bearing in Stern Bush next to and supporting propeller **3 1/2"**
 Propeller, dia. **8' 9"** Pitch **9' 4"** No. of Blades **3** Material **C.I.** whether Moveable **not** Total Developed Surface **—** sq. feet
 Feed Pumps worked from the Main Engines, No. **—** Diameter **—** Stroke **—** Can one be overhauled while the other is at work **—**
 Bilge Pumps worked from the Main Engines, No. **—** Diameter **—** Stroke **—** Can one be overhauled while the other is at work **—**
 Feed {No. and size **one, 6" x 4 1/2" x 12"** Pumps connected to the {No. and size **one, 6" x 5 1/2" x 15"**
 Pumps {How driven **Steam** Main Bilge Line {How driven **Steam**
 Ballast Pumps, No. and size **one, 6" x 5 1/2" x 15"** 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 **Eng. Rm. 2 at 2" dia. Btr. Rm. 2 at 2" dia.**
 In Pump Room **—** In Holds, &c. **one 2" dia. in each of the following Compartments: Forepeak, chain locker, store, spirit room, magazine, bunker, Eng's Store & after peak. Also connect to main space accommodation.**
 Main Water Circulating Pump Direct Bilge Suctions, No. and size **one 5" dia.** Independent Power Pump Direct Suctions to the Engine Room Bilges,
 No. and size **one, 3 1/2" 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 **fuel water meters** How are they protected **steel plates**
 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 **—** Is it fitted with a watertight door **—** worked from **—**

MAIN BOILERS, &c.—(Letter for record **S**) Total Heating Surface of Boilers **2650 sq. ft.**
 Which Boilers are fitted with Forced Draft **one** Which Boilers are fitted with Superheaters **none**
 No. and Description of Boilers **one, single-ended cylindrical** Working Pressure **200 lb.**
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? **See W. Hartlepool Rpt. 18370**
 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 **Hull Rpt. 51916** Main Boilers **in above** Auxiliary Boilers **—** Donkey Boilers **—**
 (If not state date of approval)
 Superheaters **—** General Pumping Arrangements **in London** 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 **—**

The foregoing is a correct description.

Manufacturer.



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Lloyd's Register
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Dates of Survey while building { During progress of work in shops - - {
During erection on board vessel - - - {
Total No. of visits 19.

Dates of Examination of principal parts—Cylinders — Slides — Covers —
Pistons — Piston Rods — Connecting rods —
Crank shaft — Thrust shaft 19/11/42 (Hull) Intermediate shafts 21/3/42 & 25/9/42 (Hull)
Tube shaft — Screw shaft 5/8/42 (Hull) Propeller 5/11/42
Stern tube 2/11/42 Engine and boiler seatings 5/11/42 Engines holding down bolts 19/1/43
Completion of fitting sea connections 2/11/42
Completion of pumping arrangements 12/8/42 Boilers fixed 19/1/43 Engines tried under steam 2/2/43
Main boiler safety valves adjusted 2/2/43 Thickness of adjusting washers 7/16"
Crank shaft material In Hull Rpt. Identification Mark — Thrust shaft material Steel Identification Mark 337 19.1.42
Intermediate shafts, material Steel Identification Marks 504. 21. 3. 42. 860. 25. 9. 42 Tube shaft, material — Identification Mark —
Screw shaft, material Steel Identification Mark 564. 5. 8. 42 Steam Pipes, material Steel Test pressure 600 lb. Date of Test 19.1.43 to 22.2.43
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? 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? Yes If so, state name of vessel "EARRAID"
General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been efficiently fitted on board in accordance with the approved plans, Specification & the requirements of the Rules. It has been tried under working conditions with satisfactory results and is eligible, in my opinion, for the

+ L.M.C. 3.43, O.G., I.S.B. 200 lb. F.D.

[Signature]

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

The amount of Entry Fee ... £ : :
Special 15.2 fee ... £ 15 : :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 7 MAR 1943
When received, 19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 28 MAR 1943

Assigned *[Signature]*