

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Date of writing Report *Sunderland.* When handed in at Local Office *30 SEP. 1932* Port of *Sunderland.* Received at London Office *-1 OCT 1932*

No. in Survey *78758* Reg. Book *78758* Date, First Survey *Mar 2* Last Survey *Sep. 27 1932*  
 (Number of Visits *52*)

Built at *Sunderland.* By whom built *S.P. Austin & Son, Ltd.* Yard No. *325* Tons *1814* Gross *781* Net  
 Engines made at *Sunderland.* By whom made *J. Dickinson & Son, Ltd.* Engine No. *911.* when made *1932.*  
 Boilers made at *Sunderland.* By whom made *J. Dickinson & Son, Ltd.* Boiler No. *911.* when made *1932.*  
 Registered Horse Power *142.4* Owners *London Power Co. Ltd.* Port belonging to *London.*  
 Nom. Horse Power as per Rule *142.4* Is Refrigerating Machinery fitted for cargo purposes *No.* Is Electric Light fitted *Yes.*  
 Trade for which Vessel is intended *Collier.*

**ENGINES, &c.**—Description of Engines *Triple Expansion Steam.* Revs. per minute *75*

Dia. of Cylinders *17x28x46* Length of Stroke *33* No. of Cylinders *3* No. of Cranks *3*

Crank shaft, dia. of journals *9.309* as per Rule *9.5* as fitted Crank pin dia. *9 1/2* Crank webs *15 1/4* Mid. length breadth *5 1/4* shrunk Thickness parallel to axis *5.74*  
 Intermediate Shafts, diameter *9.309* as per Rule *9.5* as fitted Thrust shaft, diameter at collars *9.309* as per Rule *9.5* as fitted  
 Tube Shafts, diameter *9.949* as per Rule *10.25* as fitted Is the *no* screw shaft filled with a continuous liner *Yes*  
 Screw Shaft, diameter *10.25* as fitted Is the *no* screw shaft filled with a continuous liner *Yes*  
 Bronze Liners, thickness in way of bushes *0.6* as per Rule *1/16* as fitted Thickness between bushes *0.45* as per Rule *0.59* as fitted 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 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 *Yes*  
 Propeller, dia. *13-0* Pitch *13-0* No. of Blades *4* Material *C.I.* whether Movable *No.* Total Developed Surface *53* sq. feet  
 Feed Pumps worked from the Main Engines, No. *2* Diameter *2 3/4* Stroke *16 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 *16 1/2* Can one be overhauled while the other is at work *Yes*  
 Feed Pumps { No. and size *1-5 1/4 x 3 1/2 x 5* How driven *Steam* Pumps connected to the Main Bilge Line { No. and size *1-9 x 11 x 10* Ballast Pump  
 How driven *Steam* Lubricating Oil Pumps, including Spare Pump, No. and size *1-9 x 11 x 10*  
 Are two independent means arranged for circulating water through the OR Cooler *Yes* Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room *1@3" in Engine Room* *1@2 1/2" aft. Well* *1@3 1/2" direct to Ballast Pump.*  
 In Holds, &c. *2 at 2 1/2" Ine. Hold.* *2 at 3" After Hold.*

Main Water Circulating Pump Direct Bilge Suctions, No. and size *1@5"* Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *1@3 1/2"*  
 Are all the Bilge Suction Pipes in holds and *lashed* 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 & tank pipes* How are they protected *wood ceiling*  
 What pipes pass through the deep tanks *Bilge suction pipes to No. 1 Hold. B.S.* Have they been tested as per Rule *Yes* *tested with tank.*  
 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 *Yes*

**MAIN BOILERS, &c.**—(Letter for record *(S)*) Total Heating Surface of Boilers *2240 sq ft*  
 Is Forced Draft fitted *No.* No. and Description of Boilers *1. S.B.* Working Pressure *200 lbs.*  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? *Yes.*  
 IS A DONKEY BOILER FITTED? *Yes.* If so, is a report now forwarded? *Yes. Returned.*

**PLANS.** Are approved plans forwarded herewith for Shafting *Yes* Main Boilers *Yes* Auxiliary Boilers *Yes* Donkey Boilers *Yes*  
 Superheaters *Yes* General Pumping Arrangements *With Ship Reports* Oil fuel Burning Piping Arrangements *Yes*

**SPARE GEAR.** State the articles supplied:— *1. C.I. Propeller. — 2 bottom end bolts & nuts — 2 top end bolts & nuts — 2 main bearing bolts & nuts — 1 set coupling bolts & nuts — 2 each feed & bilge pump valves — 1 set air pump valves — 12 plain boiler tubes — 6 condenser tubes — 1 set each feed & ballast donkey valves — 6 junk ring bolts & nuts — 50 assorted bolts & nuts — 1/2 cwt. plate — 1/2 cwt. bar iron.*

The foregoing is a correct description,  
 For *John Dickinson & Sons, Limited.*  
*John Dickinson*  
 Director,  
 Manufacturer.



003138-003146-0271

NOTE.—The words which do not apply should be deleted.

1932. July, 2, 7, 8, 21. Aug., 5, 6, 10, 13, 24, 25, 26, 30. June, 2, 3, 6, 7, 8, 14, 15, 16, 21, 27, 28. Sep., 1, 2, 5, 6, 7, 8, 15, 19, 22, 23. Aug., 4, 5, 8, 11, 12, 25, 30, 31. July, 5, 8, 12, 13, 14, 15, 19, 22, 25, 27, 29.

Dates of Survey while building: During progress of work in shops --- During erection on board vessel ---

Total No. of visits **52**

Dates of Examination of principal parts—Cylinders *11-5-7-32* Pistons *12-7-32* Piston Rods *12-7-32* Connecting rods *12-7-32* Slides *12-7-32* Covers *12-7-32*

Crank shaft *5-7-32* Thrust shaft *12-7-32* Intermediate shafts *✓*

Tube shaft *✓* Screw shaft *15-7-32* Propeller *27-7-32* *5-8-32* *30-8-32*

Stern tube *Bored 5-7-32* *Fitted 19-7-32* Engine and boiler seatings *27-6-32* Engines holding down bolts *7-9-32*

Completion of fitting sea connections *19-7-32*

Completion of pumping arrangements *8-9-32* Boilers fixed *6-9-32* Engines tried under steam *8-9-32*

Main boiler safety valves adjusted *8-9-32* Thickness of adjusting washers *P. 9/16" S. 5/8"*

Crank shaft material *Steel* Identification Mark *M2 333 T.D.S.* Thrust shaft material *Steel* Identification Mark *Nº 399 T.D.S.*

Intermediate shafts, material *✓* Identification Marks *2501* Tube shaft, material *✓* Identification Mark *✓*

Screw shaft, material *Steel* Identification Mark *Nº 432 T.D.S.* Steam Pipes, material *Steel* Test pressure *600 lbs.* Date of Test *2-9-32*

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 of this vessel have been built under Special Survey. The materials and workmanship are good. On completion, the machinery was fitted in the vessel and tried under steam with satisfactory results.*

*Vessel placed in dry dock, Propeller, stem bush & outside fastenings of sea connections examined.*

*The machinery of this vessel is in a good and efficient condition and eligible, in my opinion, to have the notations  $\Delta$  L.M.C. 9.32 marked in red in the Society's Register Book, and T.S. (C.L.) 9.32.*

SUNDERLAND

The amount of Entry Fee ... £ **3 : 0** / When applied for, **28 SEP. 1932**

Special ... £ **35 : 15** /

Donkey Boiler Fee ... £ : : /

Travelling Expenses (if any) £ : : / When received, **5.10.1932**

*J. West.*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI 7 OCT 1932**

Assigned *+ dmb 9.32*



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

CERTIFICATE WRITTEN