

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 31 MAY 1932
 30 MAY 1932 Port of NEWCASTLE-ON-TYNE

Date of writing Report When handed in at Local Office

No. in Survey held at *Hallsend-on-Tyne* Date, First Survey *13 Nov/31* Last Survey *May 27* 1932.
 Reg. Book. on the *New Steel S.S. Harpalion* (Number of Visits *60*)

Built at *Newcastle* By whom built *Hawthorne Leslie & Co. Ltd.* Yard No. *585* When built *1932*
 Engines made at *Hallsend-on-Tyne* By whom made *North Eastern M.E. Co. Ltd.* Engine No. *2184* When made *1932*
 Boilers made at *Hallsend-on-Tyne* By whom made *North Eastern M.E. Co. Ltd.* Boiler No. *2184* When made *1932*
 Registered Horse Power *482* Owners *John D. & Co. (J.C. Harrison & Co. Ltd.)* Port belonging to *London*
 Nom. Horse Power as per Rule *482* Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *yes*
 Trade for which Vessel is intended *General cargo. Ocean going.*

ENGINES, &c.—Description of Engines *Triple expansion.* Revs. per minute *55*

Dia. of Cylinders *23" x 40" x 68"* Length of Stroke *48"* No. of Cylinders *3* No. of Cranks *3*
 Crank shaft, dia. of journals *as per Rule 12.6395* Crank pin dia. *14 1/2"* Crank webs *Mid. length breadth 2 1/4" shrunk* Thickness parallel to axis *4 1/4" 1 1/4"*
 as fitted *14 1/2"* Mid. length thickness *4 1/4"* Thickness around eye-hole *4 1/4"*
 Intermediate Shafts, diameter *as per Rule 12.99"* Thrust shaft, diameter at collars *as per Rule 13.639"*
 as fitted *13 1/2"* as fitted *14 1/2"*

Tube Shafts, diameter *as per Rule 14.62"* Screw Shaft, diameter *as per Rule 15 1/8"* Is the *lube* shaft fitted with a continuous liner *yes*
 as fitted *14 1/2"* as fitted *15 1/8"*

Bronze Liners, thickness in way of bushes *as per Rule 14 1/2"* Thickness between bushes *as per Rule 2 1/2"* Is the after end of the liner made watertight in the propeller boss *yes*
 as fitted *14 1/2"* as fitted *2 1/2"* 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*
 If so, state type *oil gland* Length of Bearing in Stern Bush next to and supporting propeller *5' 3"*

Propeller, dia. *18' 6"* Pitch *19' 6"* No. of Blades *4* Material *Bronze* whether Movable *yes* Total Developed Surface *100* sq. feet

Feed Pumps worked from the Main Engines, No. *two* Diameter *4 1/2"* Stroke *26"* Can one be overhauled while the other is at work *yes*
 Bilge Pumps worked from the Main Engines, No. *2* Diameter *4 1/2"* Stroke *26"* Can one be overhauled while the other is at work *yes*
 Feed Pumps No. and size *2 Weirs 2 1/2" x 21"* Pumps connected to the *No. and size 1 @ 10 1/2" x 12 1/2" x 21"* Main Bilge Line *How driven Steam.*
 How driven *Steam* Lubricating Oil Pumps, including Spare Pump, No. and size *two*

Ballast Pumps, No. and size *1 @ 10 1/2" x 12 1/2" x 21"* Are two independent means arranged for circulating water through the Oil Cooler *yes*
 Are the Bilge Pumps, — In Engine and Boiler Room *3 @ 3" dia 1 @ 2 1/2" Yarnel well.* Suctions, connected to both Main Bilge Pumps and Auxiliary *1 @ 2 1/2" Yarnel*
 In Pump Room *2 @ 2 1/2" No 5 2 @ 3"* In Holds, &c. *1 @ 2 1/2" No 2 & 3. 2 @ 3 1/2"*

Main Water Circulating Pump Direct Bilge Suctions, No. and size *1 @ 8"* Independent Power Pump Direct Suctions to the Engine Room Bilges, *yes*
 No. and size *1 @ 5" 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 *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 *below*
 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 suction* How are they protected *work 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 *yes* Is it fitted with a watertight door *yes* worked from *top platform*

MAIN BOILERS, &c.—(Letter for record *no*) Total Heating Surface of Boilers *6846 sq ft*

Is Forced Draft fitted *yes* No. and Description of Boilers *2 Main 1 Auxiliary Single ended.* Working Pressure *220 lbs!*
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? *yes* 258
 IS A DONKEY BOILER FITTED? *no* If so, is a report now forwarded? *yes* 1 amp 8A

PLANS. Are approved plans forwarded herewith for Shafting *no* Main Boilers *yes* Auxiliary Boilers *yes* Donkey Boilers *yes*
 (If not state date of approval) Superheaters *standard.* General Pumping Arrangements *yes* Oil fuel Burning Piping Arrangements *yes*

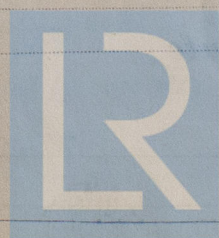
SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes.*
 State the principal additional spare gear supplied *set of valves for each auxiliary pump. set of HP piston rings 6 Thrust pads. 2 Cut Iron propeller blades. 1 Tail shaft complete. 1 spring for each size Safety valve. 1 set wearing parts for metallic packing for HP & SP piston rods + LP slide rod. 2 valve springs + 1 Cupper spring for HP valve gear.*

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

Manufacturer.

SECRETARY.




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W42-0128

Dates of Examination of principal parts—Cylinders	4-4-38	Slides	1-3-38	Covers	3-3-38
Pistons	3-3-38.	Piston Rods	8-3-38.	Connecting rods	29-2-38.
Crank shaft	14-7-38	Thrust shaft	14-2-38	Intermediate shafts	15-3-38.
Tube shaft	✓	Screw shaft	14-3-38.	Propeller	4-4-38
Stern tube	28-7-38	Engine and boiler seatings	2-3-38	Engines holding down bolts	29-4-38
Completion of fitting sea connections	4-3-38.				
Completion of pumping arrangements	2-5-38	Boilers fixed	29-4-38.	Engines tried under steam	25-38, 25-5-38.
Main boiler safety valves adjusted	4-5-38.	Thickness of adjusting washers	P.B. $\frac{13}{32}$ to $\frac{1}{2}$ Super $\frac{1}{32}$, S.B. $\frac{1}{2}$ to $\frac{15}{32}$ Super $\frac{1}{32}$ " aux B. $\frac{15}{32}$ " to $\frac{1}{2}$ "		
Crank shaft material	O.H. Steel	Identification Mark	27841 W.B.	Thrust shaft material	O.H. Steel
Intermediate shafts, material	O.H. Steel	Identification Marks	302, 324-304. 554. 306. — 8086D. W.B.	Tube shaft, material	✓
Screw shaft, material	O.H. Steel	Identification Mark	80854 8086. D.D.W. W.B.	Steam Pipes, material	S.D. Steel
Is an installation fitted for burning oil fuel	No	Is the flash point of the oil to be used over 150°F.	✓	Test pressure	660 lbs
Have the requirements of the Rules for the use of oil as fuel been complied with	✓			Date of Test	25-4-38
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.)

The machinery of this vessel has been built under Special Survey materials & workmanship good. Hydraulic test satisfactory. It has been efficiently installed & fixed in the vessel & tried under steam & was found to be in good & safe working condition & eligible in my opinion to be classed & have records  L.M.C.
5-32 Yail Shaf C. L. in the Register Book.

The amount of Entry Fee	...	£	5	: 0	0	} When applied for, 30 MAY 1932
Special	...	£	9	: 6	0	
Donkey Boiler Fee	...	£		✓	:	} When received, 7/6/1932
Travelling Expenses (if any)	£		✓	:		

Committee's Minute

FRI. 3 JUN 1932

Assigned

+ L. Mc. 5.32

F.D.
C.L.

William Butts -
Engineer Surveyor to Lloyd's Register of Shipping.

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