

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

MAY 18 1938

Date of writing Report 14-5-1938 When handed in at Local Office 14-5-38 Port of Glasgow

No. in Survey held at Glydebank Date, First Survey 23-11-37 Last Survey 18-5-1938  
 Req. Book 18139 on the Single Screw Tug "M.S.C. ARCHER" (Number of Visits 26) Tons { Gross Net

Built at Zeith By whom built Henry Fobbs & Co. Ld. Yard No. 265 When built 1938

Engines made at Glydebank By whom made Aitchison Blair & Co. Engine No. 214 When made 1938

Boilers made at Glasgow By whom made Barclay Curle & Co. Boiler No. 378 When made 1938

Registered Horse Power \_\_\_\_\_ Owners Manchester Ship Canal Co Port belonging to Manchester

Nom. Horse Power as per Rule 118 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which Vessel is intended For towing services on the Manchester Ship Canal

**ENGINES, &c.**—Description of Engines Compound Revs. per minute \_\_\_\_\_

Dia. of Cylinders 19 1/2" - 42" Length of Stroke 27" No. of Cylinders 2 No. of Cranks 2

Crank shaft, dia. of journals 8 1/2" Crank pin dia. 8 1/2" Crank webs Mid. length breadth 16" Thickness parallel to axis 5 5/8"  
 as fitted 8 1/2" Mid. length thickness 5 5/8" Thickness around eye-hole 3 5/8"

Intermediate Shafts, diameter 8 1/8" Thrust shaft, diameter at collars 8 1/2"

Tube Shafts, diameter None Screw Shaft, diameter 9 3/8" Is the { tube screw } shaft fitted with a continuous liner { None }

Bronze Liners, thickness in way of bushes as per Rule \_\_\_\_\_ Thickness between bushes as per Rule \_\_\_\_\_ Is the after end of the liner made watertight in the propeller boss \_\_\_\_\_  
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner None

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 shaft? Yes If so, state type Hewark Length of Bearing in Stern Bush next to and supporting propeller 40"

Propeller, dia. 10'-6" Pitch 10'-8" No. of Blades 4 Material C.L. whether Moveable Solid Total Developed Surface 400 sq. feet

Feed Pumps worked from the Main Engines, No. None Diameter \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work ✓

Bilge Pumps worked from the Main Engines, No. 1 Diameter 4" Stroke 5 1/2" Can one be overhauled while the other is at work ✓

Feed Pumps { No. and size 2-6" x 7" x 12" Pumps connected to the Main Bilge Line { No. and size 1-Duplex 6" x 6" x 6" How driven Steam How driven Steam

Ballast Pumps, No. and size None Lubricating Oil Pumps, including spare Pump, No. and size None

Are two independent means arranged for circulating water through the Oil Cooler None Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 1-2" E.R. 1-2" B.R.

In Pump Room No pumps room In Holds, &c. 1-2"

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 1-2 1/2"

Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes \_\_\_\_\_

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 \_\_\_\_\_

Are all Sea Connections fitted direct on the skin of the ship \_\_\_\_\_ Are they fitted with Valves or Cocks \_\_\_\_\_

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates \_\_\_\_\_ Are the Overboard Discharges above or below the deep water line \_\_\_\_\_

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel \_\_\_\_\_ Are the Blow Off Cocks fitted with a spigot and brass covering plate \_\_\_\_\_

What Pipes pass through the bunkers \_\_\_\_\_ How are they protected \_\_\_\_\_

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 \_\_\_\_\_

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 \_\_\_\_\_ Is the Shaft Tunnel watertight \_\_\_\_\_ Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

**MAIN BOILERS, &c.**—(Letter for record B) Total Heating Surface of Boilers 2304 sq. ft.

Is Forced Draft fitted No No. and Description of Boilers 1-Multitubular Working Pressure 140

IS A REPORT ON MAIN BOILERS NOW FORWARDED? \_\_\_\_\_

IS A DONKEY BOILER FITTED? \_\_\_\_\_ 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 \_\_\_\_\_ 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 \_\_\_\_\_

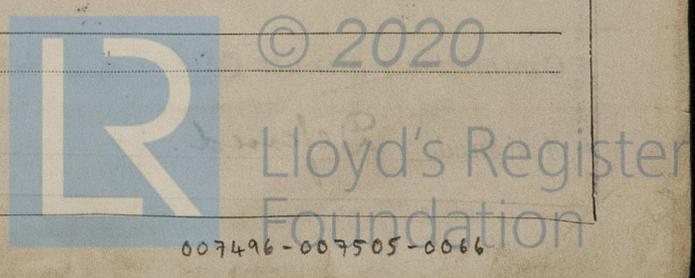
State the principal additional spare gear supplied \_\_\_\_\_

The foregoing is a correct description, FOR AND ON BEHALF OF

AITCHISON, BLAIR, LIMITED.

Manufacturer.

Archibald Blair DIRECTOR



If not, state whether, and when, one will be sent?   
 Is a Report also sent on the Hull of the Ship?   
 Note - The words which do not apply should be deleted.   
 Im. 32. T.

1937 Nov: 23 Dec: 3, 14, 23, 29 (1938) Jan: 13, 20 Feb: 2, 9, 21, 28 Mar: 4, 14, 22  
 29, 31 Apr: 5, 8, 11, 12, 13, 20, 26, 29 May: 10, 13

Dates of Survey while building

During progress of work in shops --

During erection on board vessel --

Total No. of visits 222 6

Dates of Examination of principal parts—Cylinders 2-2-38 *eli* Slides 14-12-37 *eli* Covers 14-12-37 *eli*  
 Pistons 14-12-37 *eli* Piston Rods 21-2-38 *eli* Connecting rods 3-12-37 *eli*  
 Crank shaft 23-12-37 *eli* Thrust shaft 13-1-38 *eli* Intermediate shafts 13-1-38 *eli*  
 Tube shaft *none* Screw shaft 20-1-38 *eli* Propeller 11-4-38 *eli*  
 Stern tube 21-2-38 *eli* Engine and boiler seatings Engines holding down bolts

Completion of fitting sea connections  
 Completion of pumping arrangements Boilers fixed Engines tried under steam  
 Main boiler safety valves adjusted Thickness of adjusting washers

Crank shaft material 8 Identification Mark 809 Thrust shaft material 8 Identification Mark 809  
 Intermediate shafts, material 8 Identification Marks 809 Tube shaft, material 1 Identification Mark 1  
 Screw shaft, material 8 Identification Mark 809 Steam Pipes, material Test pressure Date of Test

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? *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 in accordance with the approved plans and the Society's Rules and requirements, the materials and workmanship are good, and in my opinion will be eligible for the record & L.M.C. with date when it has been securely fitted on board, and satisfactorily tried under steam.*

*The machinery has been despatched to Leith*

The amount of Entry Fee ... £ 3 : 0 : 0 When applied for, 17 MAY 1938  
 Special 2/5 *Leith* £ 10 : 10 : 0  
 Donkey Boiler Fee ... £ 5 : 18 : 0  
 Travelling Expenses (if any) £ : : 3/6/38

*Jas. Cairns,*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 17 MAY 1938

FRI 1 JUL 1938

Assigned *Deferred.*



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