

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office MAY 4 1938

Date of writing Report 28th April 1938 When handed in at Local Office 29 APR 1938 Port of LIVERPOOL

No. in Survey held at Lytham Date, First Survey 14th June 1936 Last Survey 19th April 1938
Reg. Book. 37401 on the SS. "BROOMFIELD" (Number of Visits 27) Tons {Gross 659.98
Net 273.66

Built at Lytham By whom built Lytham S. B. & S. C. Ltd. Yard No. 841 When built 1938

Engines made at Lytham By whom made do Engine No. 535 When made 1938

Boilers made at do By whom made do Boiler No. 530 When made 1938

Registered Horse Power 88.68 Owners Zillah Shipping & Carrying Co. Ltd (Inqrs. W. & Savage Ltd) Port belonging to Liverpool

Nom. Horse Power as per Rule 105 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

Trade for which Vessel is intended Roasting

ENGINES, &c.—Description of Engines Triple Expansion Steam Reciprocating for ocean going service Revs. per minute 115

Dia. of Cylinders 12 3/4" 21" 36" Length of Stroke 24" No. of Cylinders 3 No. of Cranks 3 @ 120°

Crank shaft, dia. of journals as per Rule 6.94 Crank pin dia. 7 1/4" Crank webs Mid. length breadth 9 1/2" Thickness parallel to axis 4 3/8" x 5 1/4" parallel
as fitted 7" Mid. length thickness 4 1/2" shrunk Thickness around eye-hole 3 1/8"

Intermediate Shafts, diameter as per Rule 6.61 Thrust shaft, diameter at collars as per Rule 6.94
as fitted none as fitted 7"

Tube Shafts, diameter as per Rule none Screw Shaft, diameter as per Rule 7.4 Is the tube shaft fitted with a continuous liner yes
as fitted none as fitted 8" reduced to 7 1/4" at coupling as per Rule 13/32

Bronze Liners, thickness in way of bushes as per Rule 3 7/64" 3 7/64" Thickness between bushes as per Rule 14 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 Continuous

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 Yes

Propeller, dia. 9'-9" Pitch 9'-0" mean No. of Blades 4 Material C.I. whether Moveable Solid Total Developed Surface 28.25 sq. feet

Feed Pumps worked from the Main Engines, No. none Diameter 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes

Bilge Pumps worked from the Main Engines, No. 2 Diameter 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes

Feed Pumps { No. and size one 6 1/2" x 4 1/2" 112" duplex Pumps connected to the { No. and size one 8 1/8" x 8" duplex forward ME bilge pump
How driven independent steam (both) Main Bilge Line { How driven independent steam layers from MP engine one had pump 2" suction worked from deck

Ballast Pumps, No. and size one 8" x 8" x 8" Vert. duplex Lubricating Oil Pumps, including Spare Pump, No. and size none

Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room (common) 1 off 2 1/2" diam in ER. 1 off each side in S.H. 2 1/2" diam. After ME bilge pump has independent suction 2 1/2" diam. in ER.

In Pump Room 1 off 2 1/2" diam in main hold 2 1/2" diam

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 off 3 1/2" diam Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 off 3" diam

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 immediately below 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 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 main hold bilge suction pipes How are they protected under close ceiling

What pipes pass through the deep tanks no 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 E 4.3.36 Total Heating Surface of Boilers 1637 sq. ft. Standby means for circulating condenser provided by ballast pump.

Is Forced Draft fitted Yes No. and Description of Boilers one single ended cyl. Multitubular Working Pressure 200 lb sq"

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? Yes

Is the donkey boiler intended to be used for domestic purposes only Yes

PLANS. Are approved plans forwarded herewith for Shafting E 7.5.36 Main Boilers E 4.3.36 Auxiliary Boilers Yes Donkey Boilers Yes

Superheaters Yes General Pumping Arrangements E 11.6.37 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

1. eccentric strap complete Spare propeller supplied to owners but not carried on board.

6. cam rollers, pins collars & collars

6. condenser tubes & 48 ferrules

6. cylinder cover studs.

2. main bearing studs & nuts

2. sets shaft coupling bolts.

1. set gland studs

1 set spare for metallic packing

6. plain boiler tubes.

The foregoing is a correct description.

THE LYTHAM SHIPBUILDING and ENGINEERING COMPANY LIMITED Manufacturer.



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1936. 24/6. 17/7. 4/8. 16/9. 1/10. 14/11. 8/12. 1937. 28/1. 1/3. 9/4. 5/5. 13/5. 17/6. 20/9. 3/11. 25/11. 2/12. 31/12

Dates of Survey while building

During progress of work in shops -- 1938. 25/1. 1/3.

During erection on board vessel --- 1937. 16/11. 18/11. 1938. 25/1. 9/2. 23/2. 1/3. 11/3. 26/2. 19/4.

Total No. of visits 27.

Dates of Examination of principal parts—Cylinders 25.1.38. Slides 23.2.38. Covers 25.1.38.

Pistons 9.2.38. Piston Rods 13.4.37. Connecting rods 13.4.37.

Crank shaft 19.3.37. Thrust shaft 19.3.37. Intermediate shafts ✓

Tube shaft ✓ Screw shaft 3.11.37. Propeller 16.11.37.

Stern tube 3.11.37. Engine and boiler seatings 16.11.37. Engines holding down bolts 9.2.38.

Completion of fitting sea connections 16.11.37.

Completion of pumping arrangements 19.4.38. Boilers fixed 9.2.38. Engines tried under steam 19.4.38.

Main boiler safety valves adjusted 19.4.38. Thickness of adjusting washers 5/16" port. 9/32" starboard.

Crank shaft material Hot Steel (C.S. webs) Identification Mark 19.3.37. WSS RR Thrust shaft material Hot steel Identification Mark 1937. WSS RR

Intermediate shafts, material None Identification Marks LLOYDS 118 ✓ Tube shaft, material ✓ Identification Mark ✓

Screw shaft, material Hot steel Identification Mark 3.11.37. WSS RR Steam Pipes, material SD pipe Test pressure 400 lb Date of Test 1.3.38.

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 No

Is this machinery duplicate of a previous case Yes If so, state name of vessel "BRACKENFIELD" Lis. Rkt. No

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been constructed and fitted on board under Special Survey, in accordance with the approved plans, Secretary's letters and the Rules for Engines & Boilers. The materials and workmanship are satisfactory.

The machinery and boiler were examined under working conditions and the boiler safety valves adjusted under steam to the working pressure.

In my opinion, the machinery of this vessel is eligible to be classed in the Register Book and to have notation of + LMC 4.38. 15B. 200 LBS. (OG).

Forging Reports in respect of shafting, piston rods and connecting rods were forwarded with Lis. Rkt. No 109965. (S.S. "Brackenfield")

Certificate to be sent to

The amount of Entry Fee ... £ 3 : 0 : When applied for,
 Special ... £ 26 : 5 : 2.9 APR 1938
 Donkey Boiler Fee ... £ : : When received,
 Travelling Expenses (if any) £ 2 : 1/2 12.5.19.38 16.5

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

Committee's Minute LIVERPOOL 3 MAY 1938

Assigned + L.M.C. 4.38. R.D. J.S. (OG) CC