

REPORT ON MACHINERY.

No. 40312

Received at London Office WED. SEP. 1 1920

Date of writing Report 30.8.1920 When handed in at Local Office 30.8.1920 Port of Glasgow

Survey held at Glasgow Date, First Survey 30th April 1919 Last Survey 19th Aug 1920
Book on the S.S. C HANTALA (Number of Visits 63)

Built at Glasgow By whom built Barclay Currie & Co. Ltd. 589 When built 1920
Engines made at do By whom made do no 589 when made 1920
Boilers made at do By whom made do no 589 when made 1920

Registered Horse Power Owners British India Steam Navigation Co. Port belonging to

Horse Power as per Section 28 678 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Engines, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
No. of Cylinders 24-41-70 Length of Stroke 48 Revs. per minute 87 Dia. of Screw shaft as per rule 4 1/2 as fitted 4 3/4 Material of screw shaft Steel
Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight
If the liner is in more than one length are the joints burned out 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 whole length If two
are fitted, is the shaft lapped or protected between the liners Length of stern bush 5'0"

Dia. of Tunnel shaft as per rule 3 2/5 as fitted 3 1/2 Dia. of Crank shaft journals as per rule 13.93 as fitted 14 7/8 Dia. of Crank pin 1 1/4 Size of Crank webs 26 1/2 x 9 Dia. of thrust shaft under
cars 4 1/4 Dia. of screw 6-6 Pitch of Screw 17-9 No. of Blades 4 State whether moveable Yes Total surface 87 1/4

No. of Feed pumps 2 Diameter of ditto 5 Stroke 24 Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 5 Stroke 24 Can one be overhauled while the other is at work Yes
No. of Donkey Engines 5 Sizes of Pumps (1) Ballast 9 x 11 x 10 (2) General 7 x 5 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room (2) 3 1/2 Stroke hold (2) 3 1/2 In Holds, &c. No 1-2-3-4-5 (2) 3
Tunnel well (1) 2 1/2

No. of Bilge Injections 1 sizes 10 Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes 4"

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible None
Are all connections with the sea direct on the skin of the ship Yes Are they 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 Discharge Pipes 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

How are they protected Iron casings
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from upper deck

Manufacturers of Steel Steel of Scotland & Co. Beardmore & Co. Ltd

Total Heating Surface of Boilers 11084 1/2 Is Forced Draft fitted Yes No. and Description of Boilers 4 Single ended
Working Pressure 215 lb Tested by hydraulic pressure to 377 lb Date of test 22.3.20 25.3.20 No. of Certificate 15171 15178

Can each boiler be worked separately Yes Area of fire grate in each boiler 67.84 No. and Description of Safety Valves to
each boiler 2 Spring loaded Area of each valve 9.620 Pressure to which they are adjusted > 220 lb Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 1-6 Mean dia. of boilers 15-6 Length 11-6 Material of shell plates Steel
Thickness 1 7/16 Range of tensile strength 30 to 34 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L & R

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Pitch of rivets 10 1/4 Lap of plates or width of butt straps 2 1/16
Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 10 1/4 Lap of plates or width of butt straps 2 1/16

Percentage of strength of longitudinal joint
rivets 89.25 Working pressure of shell by rules 221 Size of manhole in shell 16 x 12
plate 85.36

No. and Description of Furnaces in each boiler 4 Corrugated Material Steel Outside diameter 3-5 1/4
Length of plain part top 19 bottom 32 Description of longitudinal joint welded No. of strengthening rings -
Working pressure of furnace by the rules 229 Combustion chamber plates: Material Steel Thickness: Sides 5/8 Back 1/2 Top 5/8 Bottom 3/4

Pitch of stays to ditto: Sides 7 3/4 x 8 Back 8 x 9 1/2 Top 8 x 7 3/4 If stays are fitted with nuts or riveted heads No Working pressure by rules 218
Material of stays Steel Area at smallest part 1.73 Area supported by each stay 62 Working pressure by rules 250 End plates in steam space:

Material Steel Thickness 1 3/32 Pitch of stays 15 1/4 x 9 1/2 How are stays secured DR Working pressure by rules 217 Material of stays Steel
Area at smallest part 6.60 Area supported by each stay 247 Working pressure by rules 231 Material of Front plates at bottom Steel

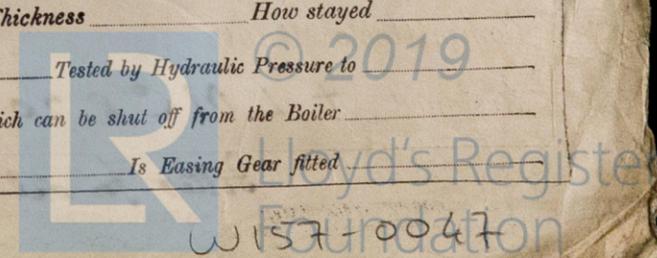
Thickness 27/32 Material of Lower back plate Steel Thickness 32/32 Greatest pitch of stays 14 Working pressure of plate by rules 218
Diameter of tubes 2 1/2 Pitch of tubes 3 3/8 Material of tube plates Steel Thickness: Front 31/32 Back 13/16 Mean pitch of stays 9 1/4

Pitch across wide water spaces 13 1/2 Working pressures by rules 224 Girders to Chamber tops: Material Steel Depth and
Thickness of girder at centre 9 x 3 3/4 (2) Length as per rule 31 Distance apart 8 Number and pitch of stays in each (3) 8 x 7 3/4

Working pressure by rules 220 Steam dome: description of joint to shell None % of strength of joint
Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed
SUPERHEATER. Type None Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler
Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted



IS A DONKEY BOILER FITTED? no

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - 2 Top and bolts and nuts, 2 bottom end bolts and nuts, 2 main bearing bolts and nuts, 6 coupling bolts and nuts, Set of feed and belze Pump Valves, Iron, bolts and nuts assorted and other articles.

The foregoing is a correct description,

BAROLAY, CURLE & Co., Ltd.

John McEwan

Manufacturer.

Dates of Survey while building: During progress of work in shops - 1919 Apr 30 May 20 Jun 12-26 July 1 Sep 8-26 Oct 1-2-27 Nov 6-4-11 Dec 4-16-19-15-17-26-31 (1920) Jan 12-13-20-26-27 Feb 3-5-9-10-12-13 Mar 8-9-10-16-22-23-24-25-29-30-31 Apr 6-7-8-16-21-23-29 May 3-5-6-10-14-24-27 Jun 1 Aug 10-19 During erection on board vessel - - - Total No. of visits 63

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " "

Dates of Examination of principal parts - Cylinders 27.10.19 Slides 1.6.19 Covers 1.6.19 Pistons 11.11.19 Rods 11.11.19

Connecting rods 11.11.19 Crank shaft 16.12.19 Thrust shaft 16.2.20 Tunnel shafts 15.12.19 Screw shaft 15.12.19 Propeller 29.3.20

Stern tube 11.11.19 Steam pipes tested 24.5.20 Engine and boiler seatings 8.3.20 Engines holding down bolts 14.5.20

Completion of pumping arrangements 10.8.20 Boilers fixed 29.4.20 Engines tried under steam 10.8.20 19.8.20

Completion of fitting sea connections 29.3.20 Stern tube 8.3.20 Screw shaft and propeller 29.3.20

Main boiler safety valves adjusted 10.8.20 Thickness of adjusting washers 4a 3a S. F. 13/32 A. 3/8 " P. F. 3/32 A. 1/32

Material of Crank shaft Steel Identification Mark on Do. 16.12.19 J.E. Material of Thrust shaft Steel Identification Mark on Do. 16.12.20 J.E.

Material of Tunnel shafts Steel Identification Marks on Do. Δ Material of Screw shafts Steel Identification Marks on Do. □

Material of Steam Pipes Iron Test pressure 645 lb/in²

Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150°F. Yes

Have the requirements of Section 49 of the Rules been complied with Yes

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.)

LLoy do 55 30 2959A 2959 JR38 TM 15.12.19 H.B. 31 2961A TM 15.12.19 JR 25 2959 TM 15.12.19

The machinery has been constructed under Special Survey in accordance with the Rules and approved Plans and has been seen working satisfactorily. Under steam materials and workmanship are good.

The machinery is eligible in my opinion to be Classed + LMC 8.20 9 to have record of Fitted for oil fuel 8.20 F.P. above 150°F

is submitted that this vessel is eligible for THE RECORD. + LMC 8.20 F□ Fitted for OIL FUEL 8.20 FP above 150°F.

Roll 3/9/20

The amount of Entry Fee ... £ 3 : 0 : Special ... £ 53 : 18 : Donkey Boiler Fee ... £ : : Travelling Expenses (if any) £ : :

When applied for 31 AUG 1920 When received 2/10/20

GLASGOW 31 AUG 1920 MACHINERY DEPT. WRITTEN 1.9.20

Committee's Minute Assigned + LMC 8.20 70.

Fitted for oil fuel 8.20 F.P. above 150°F.

