

REPORT ON MACHINERY.

No. 13867.

21 APR 1925

Date of writing Report 18th April 1925 When handed in at Local Office 20th April, 1925 Port of Aberdeen
No. in Survey held at Aberdeen Date, First Survey 28.5.24 Last Survey 17.4.1925
Reg. Book. on the S.S. "PORTIA" (Number of Visits 51)
Master Built at Aberdeen By whom built John Guthrie Torry & Co. (N^o 464) Tons Gross 801 Net 313
Engines made at Aberdeen By whom made A. Hall & Co. Ltd. (N^o 290) When built 1925
Boilers made at Aberdeen By whom made A. Hall & Co. Ltd. (N^{os} 272 & 272A) when made 1925
Registered Horse Power Owners R. Gilchrist & Co. Port belonging to Liverpool.
Nom. Horse Power as per Section 28 186 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
Dia. of Cylinders 18"-30"-50" Length of Stroke 33" Revs. per minute 88 Dia. of Screw shaft 10.13" as per rule 10.25" 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 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 fits whole length If two liners are fitted, is the shaft lapped or protected between the liners
Dia. of Tunnel shaft 9.09" as per rule 9.18" Dia. of Crank shaft journals 9.43" as per rule 9.64" Dia. of Crank pin 9.7" Size of Crank webs 52" x 6 1/2" Dia. of thrust shaft under collars 9 7/8" Dia. of screw 12"-6" Pitch of Screw 16"-0" No. of Blades 4 State whether moveable Yes Total surface 52 sq ft
No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 16" Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 2 3/4" Stroke 16" Can one be overhauled while the other is at work Yes
No. of Donkey Engines 3 Sizes of Pumps 7" x 8" x 8" 6" x 4 1/2" x 6" 6" x 4 1/2" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 3 @ 2 1/2" In Hold, &c. 2 @ 3 1/2"

No. of Bilge Injections One sizes 5 1/4" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size 10 1/2" IN HOLDS
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
What pipes are carried through the bunkers Bilge Suction Pipes to Hold How are they protected Wood 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 None Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S) Manufacturers of Steel D. Colville & Sons Ltd.; The Lanarkshire Steel Co. Ltd.

Total Heating Surface of Boilers 3210 sq ft Is Forced Draft fitted No No. and Description of Boilers Two Single Ended 2 SB
Working Pressure 190 lbs./sq. in. Tested by hydraulic pressure to 335 lbs./sq. in. Date of test 24.2.25 No. of Certificate 1040-B.N. 272 1041-B.N. 272A
Can each boiler be worked separately Yes Area of fire grate in each boiler 42 sq ft No. and Description of Safety Valves to each boiler Two spring loaded Area of each valve 4.91 sq in. Pressure to which they are adjusted 195 lbs./sq. in. Are they fitted with easing gear Yes
Smallest distance between uptakes and bunkers 5'-6" Ext. dia. of boilers 13'-0" Length 10'-6" Material of shell plates Steel
Thickness 1 1/8" Range of tensile strength 28/32 tons/sq. in. Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. LAP long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 2 1/2" 8 3/8" Top of plates or width of butt straps 18"
Per centages of strength of longitudinal joint rivets 89.4 90.7 Working pressure of shell by rules 272-190 lbs. Size of manhole in shell 16" x 19"
Size of compensating ring 30" x 34" x 1 1/8" No. and Description of Furnaces in each boiler Two Brighton Material Steel Outside diameter 44 15/16"
Length of plain part top 19" bottom 32" Description of longitudinal joint weld No. of strengthening rings None
Working pressure of furnace by the rules 192 lbs./sq. in. Combustion chamber plates: Material Steel Thickness: Sides 272-23" Back 47" Top 3" Bottom 272-23" 272A-25"
Pitch of stays to ditto: Sides 10" x 9" Back 272 9 1/4" x 10" Top 10" x 10" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 194 lbs.
Material of stays Steel DIA. OVER THREADS Area at smallest part 1 3/4" Area supported by each stay 97.5 sq in. Working pressure by rules 191 lbs. End plates in steam space:
Material Steel Thickness 1 3/16" Pitch of stays 18 3/4" x 17 1/2" How are stays secured D. Ruto Working pressure by rules 200 lbs./sq. in. Material of stays Steel
DIA. OVER THREADS Area at smallest part 3" Area supported by each stay 328 sq in. Working pressure by rules 204 lbs. Material of Front plates at bottom Steel
Thickness 13/16" Material of Lower back plate Steel Thickness 272 5 5/8" Greatest pitch of stays 14" x 8" Working pressure of plate by rules 259 lbs./sq. in. 272A 5 1/2" 272A 5 1/2"
Diameter of tubes 3 1/2" Pitch of tubes 4 5/8" x 4 5/8" Material of tube plates Steel Thickness: Front 13/16" Back 272 3 1/4" Mean pitch of stays 9 1/4"
Pitch across wide water spaces 14 1/2" Working pressures by rules F/195 B/272-277 lbs. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 272-8 3/4" x 20 13" Length as per rule 31 3/32" Distance apart 10" Number and pitch of stays in each 20 10"
Working pressure by rules 218 lbs. 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

002385-002400-0066

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— All as per rule requirements and, in addition, one propeller, six junk ring bolts and nuts, three boiler tubes, six condenser tubes and a number of ferrules, one set of air pump valves, main and donkey feed check valve for each boiler

The foregoing is a correct description,

For ALEXANDER HALL & CO., LTD

SECRETARY

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1924:-- MAY: 28.29. JUNE: 6.18.20.24. JULY: 1.8.15.24. AUG: 11.19.20. SEP: 3.10.17. OCT: 2.6.10.24.28.30. NOV: 7.12.21. DEC: 1.9.12.22.30. 1925:-- JAN: 13.20.29. FEB: 4.5.9.16.17.20.23.24.
During erection on board vessel -- 1925:-- FEB: 25. MAR: 2.6.9.12.13.18.26. APRIL 6.17.
Total No. of visits 51

Is the approved plan of main boiler forwarded herewith yes.

“ “ “ donkey “ “ “

Dates of Examination of principal parts—Cylinders 7.11.24 Slides 10.10.24 Covers 7.11.24 Pistons 12.11.24 Rods 12.11.24
Connecting rods 12.11.24 Crank shaft 28.8.20 Thrust shaft 16.2.25 Tunnel shafts None Screw shaft 10.10.24 Propeller 9.2.25
Stern tube 9.2.25 Steam pipes tested 5.3.25 Engine and boiler seatings 17.2.25 Engines holding down bolts 9.3.25
Completion of pumping arrangements 26.3.25 Boilers fixed 12.3.25 Engines tried under steam 6.4.25
Completion of fitting sea connections 23.2.25 Stern tube 17.2.25 Screw shaft and propeller 20.2.25
Main boiler safety valves adjusted 6.4.25 Thickness of adjusting washers PORT BOILER F3/8 A3/8 STARBOARD BOILER F3/8 A3/8
Material of Crank shaft Steel Identification Mark on Do. LLOYD'S No 5152 FEB. 20.4.20
Material of Tunnel shafts None Identification Marks on Do. — Material of Thrust shaft Steel Identification Mark on Do. LLOYD'S No 993 A.T.T. 10.10.24
Material of Steam Pipes 90. Copper Test pressure 380 lbs./sq. in.

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 Section 49 of the Rules 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 constructed under Special Survey in accordance with the rules and approved plan; the materials and workmanship are good. The machinery has been fitted on board the vessel in an efficient manner, examined at the wharf under steam and found satisfactory, and is eligible, in my opinion, for classification and to have the record L.M.C. 4.25 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 4.25. CL

for C. E. Wilks & Self.

A. B. Forster

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 3 : 0 : 0 When applied for,
Special ... £ 46 : 10 : 0 18.4.19.25.
Donkey Boiler Fee ... £ : : :
Travelling Expenses (if any) £ : : : 20.4.25

Committee's Minute

FRI. 24 APR 1925

Assigned

+ LMC 4.25



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