

Date of writing Report 18th Sept. 1924 When handed in at Local Office 20th Sept. 1924 Port of GLASGOW
No. in Survey held at Paisley Date, First Survey 7th March Last Survey 15th Sept. 1924
Reg. Book. on the Steel Screw Steamer "CROMARTY FIRTH" (Number of Visits 13)
Master ✓ Built at Paisley By whom built Bos. Mc Lachlan & Co. Ltd. (N° 44) When built 1924
Engines made at Aberdeen By whom made A. Hall & Co. Ltd. (N° 287) when made 1924
Boilers made at Paisley By whom made Bos. Mc Lachlan & Co. Ltd. (N° 132) when made 1924
Registered Horse Power 67 Owners The Firth Shipping Co. Ltd. (J. J. Gillis & Co. Ltd.) Port belonging to Glasgow
Nom. Horse Power as per Section 28 67 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple Expansion Surface Condensing No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 11", 18" & 30" Length of Stroke 22" Revs. per minute 120 Dia. of Screw shaft as per rule Material of as fitted screw shaft
Is the screw shaft fitted with a continuous liner the whole length of the stern tube no oil gland fitted Is the after end of the liner made water tight in the propeller boss ✓ If the liner is in more than one length are the joints turned ✓ 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 ✓ Length of stern bush as per rule
Dia. of Tunnel shaft as per rule Dia. of Crank shaft journals as per rule Dia. of Crank pin as fitted Size of Crank webs as fitted Dia. of thrust shaft under collars as fitted Dia. of screw as fitted Pitch of Screw as fitted No. of Blades as fitted State whether moveable as fitted Total surface as fitted
No. of Feed pumps as fitted Diameter of ditto as fitted Stroke as fitted Can one be overhauled while the other is at work as fitted
No. of Bilge pumps as fitted Diameter of ditto as fitted Stroke as fitted Can one be overhauled while the other is at work as fitted
No. of Donkey Engines One Sizes of Pumps 4 1/2" x 3" x 6" Duplex No. and size of Suctions connected to both Bilge and Donkey pumps as fitted
In Engine Room 2 @ 2 1/2" In Holds, &c. 3 @ 2 1/2"

No. of Bilge Injections one sizes 2 3/4" Connected to condenser, or to circulating pump ✓ Is a separate Donkey Suction fitted in Engine room & size yes: 2 1/2"
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 ✓
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 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 are carried through the bunkers 3 bilge & 2 ballast pipes How are they protected Wood casing
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 ✓ Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record S) Manufacturers of Steel W. Beardmore & Co. Ltd. and The Lancashire Steel Co. Ltd.
Total Heating Surface of Boilers 1315 ft.² Is Forced Draft fitted no No. and Description of Boilers One - Cylindrical Single ended Return Tube
Working Pressure 180 lbs./in.² Tested by hydraulic pressure to 320 lbs./in.² Date of test 22-7-24 No. of Certificate 16562
Can each boiler be worked separately ✓ Area of fire grate in each boiler 38.5 ft.² No. and Description of Safety Valves to each boiler 2 - direct spring Area of each valve 4.9 in.² Pressure to which they are adjusted 180 lbs./in.² Are they fitted with easing gear yes
Smallest distance between boilers or uptakes and bunkers or woodwork 1 foot Mean dia. of boilers 11'-10" Length 10'-0" Material of shell plates steel
Thickness 1" Range of tensile strength 28/32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams J.R. Lap
long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 7 5/8" Lap of plates or width of butt straps 1'-3 7/8"
Per centages of strength of longitudinal joint 88 Working pressure of shell by rules 184 lbs. Size of manhole in shell 16" x 12"
Size of compensating ring 3 1/2" deep No. and Description of Furnaces in each boiler 2 of 9: Seighton Material steel Outside diameter 3'-5 1/4"
Length of plain part top Thickness of plates crown Description of longitudinal joint weld No. of strengthening rings ✓
Working pressure of furnace by the rules 198 lbs. Combustion chamber plates: Material steel Thickness: Sides 2 1/2" Back 2 1/2" Top 2 1/2" Bottom 2 1/2"
Pitch of stays to ditto: Sides 9" x 9" Back 9" x 9" Top 8 1/2" x 9" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 185 lbs.
Material of stays steel Area at smallest part 1.73 in.² Area supported by each stay 81 in.² Working pressure by rules 188 lbs. End plates in steam space: ✓
Material steel Thickness 1" Pitch of stays 1'-4" x 1'-3" How are stays secured 2 nuts Working pressure by rules 192 lbs. Material of stays steel
Area at smallest part 5.56 in.² Area supported by each stay 240 in.² Working pressure by rules 243 lbs. Material of Front plates at bottom steel
Thickness 1" Material of Lower back plate steel Thickness 1" Greatest pitch of stays P.C.D. = 18" Working pressure of plate by rules 286 lbs.
Diameter of tubes 3 1/4" Pitch of tubes 4 1/4" x 4 1/4" Material of tube plates steel Thickness: Front 1" Back 3/4" Mean pitch of stays 8 1/2" x 8 1/2"
Pitch across wide water spaces 14 1/4" x 8 1/2" Working pressures by rules 181 lbs. Girders to Chamber tops: Material steel Depth and thickness of girder at centre 2 @ 8" x 5 1/8" Length as per rule 2'-4 1/2" Distance apart 8 1/2" Number and pitch of stays in each 2 @ 9"
Working pressure by rules 200 lbs. Steam dome: description of joint to shell ✓ % 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 ✓ 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 ✓
Material of Safety Valves ✓ 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 - connecting rod top-end bolts & nuts: ✓
 2 - connecting rod bottom-end bolts & nuts: ✓
 2 - main bearing bolts: ✓
 1 set - coupling bolts ✓
 1 set - each of air, circulating, feed & bilge pump valves: ✓
 A quantity assorted bolts & nuts: ✓ and
 Iron of various sizes: ✓

The foregoing is a correct description,

BOW, McLAGHLAN & CO., LTD.

John MacLachlan
Director.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1924 Mar 7 13 28 Apr 9 17 19 Jun 4 18 20 July 9 17 22 28 Aug 19 Sep 15
 { During erection on board vessel --- } 1924 Aug 18 Sep 3 8 10 15
 Total No. of visits 20

Is the approved plan of main boiler forwarded herewith

yes

* as per Aberdeen Report on Main Engines.

" donkey "

none

Dates of Examination of principal parts—Cylinders * Slides * Covers * Pistons * Rods *
 Connecting rods * Crank shaft * Thrust shaft * Tunnel shafts ✓ Screw shaft * Propeller *
 Stern tube * Steam pipes tested 19-8-24 Engine and boiler seatings 18-8-24 Engines holding down bolts 8-9-24
 Completion of pumping arrangements 15-9-24 Boilers fixed 8-9-24 Engines tried under steam 15-9-24
 Completion of fitting sea connections 18-8-24 Stern tube { 28-7-24 18-8-24 } Screw shaft and propeller 18-8-24
 Main boiler safety valves adjusted 10-9-24 Thickness of adjusting washers 7/16" P. 7/16" S.
 Material of Crank shaft * Identification Mark on Do. * Material of Thrust shaft * Identification Mark on Do. *
 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts * Identification Marks on Do. *
 Material of Steam Pipes solid drawn steel ✓ Test pressure 540 lbs./in² ✓
 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.) These Engines (Aberd. Rpt. 13592) and the Boilers have been built under special survey in accordance with the Rules & the approved plans. The material & workmanship are good. They have been fitted on board and tried under steam with satisfactory results.
 This Machinery is eligible, in my opinion, to be classed in the Register Book with records: L.M.C. - 9.24
 T.S. - C.L.

It is submitted that
 this vessel is eligible for
 THE RECORD. + LMC 9.24. CL.

W.D. 26/9/24

The amount of Entry Fee ... £ 3 : 7/10 23/9/1924
 1/2 Special (Fitting out) £ 3 : 7/10
 Donkey Boiler Fee ... £ 8 : 16/-
 Travelling Expenses (if any) £ - : - : 29/9/24

J. D. Boyle
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned + L.M.C. 9.24.

CERTIFICATE WRITTEN
16.10.24

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Lloyd's Register
Foundation

Date of

No. in
Reg. 1

Built

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