

REPORT ON MACHINERY.

No. 24372
THUR. 1 NOV 1906

Port of Glasgow

Received at London Office 19

No. in Survey held at Coalbridge
g. Book. on the S. S. "Marien"

Date, first Survey 24 April Last Survey 28th Aug 1906
(Number of Visits 24)

Master Built at Aberdeen By whom built J. Duchie Sons & Co. (No. 265) Tons Gross 413 Net 118 When built 1906
Engines made at Coalbridge By whom made W. V. P. Lidgwood (No. 223) when made 1906
Machinery made at Glasgow By whom made A. & W. Dalglisk (No. 269) when made 1906
Registered Horse Power 69.68 Owners North Eastern Shipping Co. Port belonging to Aberdeen
Nominal Horse Power as per Section 28 69 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 12 1/4 - 20 - 33 1/2 Length of Stroke 24 Revs. per minute 7.4 Material of screw shaft Iron
Is the after end of the liner made water tight
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 Tight fit If two liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 32 1/2
Dia. of Tunnel shaft as per rule 6.28 as fitted None Dia. of Crank shaft journals as per rule 6.68 as fitted 6 3/4 Dia. of Crank pin 6 3/4 Size of Crank webs 12 1/2 x 4 1/2 Dia. of thrust shaft under bars 6 3/4 Dia. of screw 9-6 Pitch of Screw 11-0 No. of Blades 4 State whether moveable Yes Total surface 32 1/2
No. of Feed pumps 1 Diameter of ditto 2 1/2 Stroke 12 Can one be overhauled while the other is at work
No. of Bilge pumps 1 Diameter of ditto 2 1/2 Stroke 12 Can one be overhauled while the other is at work
No. of Donkey Engines 1 Sizes of Pumps 6 x 4 1/2 x 6 duplex No. and size of Suctions connected to both Bilge and Donkey pumps Two 2"
Engine Room Two 2" In Holds, &c. Three 2"

No. of Bilge Injections 1 sizes 3" Connected to condenser or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room of size Two 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 Yes
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
How are they protected Strong 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
Dates of examination of completion of fitting of Sea Connections 20.4.06 of Stern Tube 20.4.06 Screw shaft and Propeller 20.4.06
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door worked from Yes

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel plates By Beardmore, but by J. Colville & Sons
Total Heating Surface of Boilers 1200 sq ft Forced Draft fitted No No. and Description of Boilers One, Single Ended
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 11/7/06 No. of Certificate 8154
Can each boiler be worked separately Area of fire grate in each boiler 38 1/2 sq ft No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 4.91 Pressure to which they are adjusted 180 lbs Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork None Mean dia. of boilers 12-0 Length 10-0 Material of shell plates Steel
Thickness 1" Range of tensile strength 27-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR Lap
Pitch of rivets 7/2" Lap of plates or width of butt straps 15 3/4"
Percentage of strength of longitudinal joint 88-1 Working pressure of shell by rules 186 lbs Size of manhole in shell 16 x 12"
No. and Description of Furnaces in each boiler Two, plain Material Steel Outside diameter 43 1/2"
Length of plain part 73" Thickness of plates 5/16" Description of longitudinal joint Welded No. of strengthening rings one T
Working pressure of furnace by the rules 198 Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 15/16"
Pitch of stays to ditto: Sides 9 3/4 x 7 1/2 Back 9 x 8 1/4 Top 9 1/4 x 8 7/8 stays are fitted with nuts or riveted heads Nuts Working pressure by rules 181
Material of stays Steel Diameter at smallest part 2 1/4 Area supported by each stay 74 Working pressure by rules 216 End plates in steam space: None
Material Steel Thickness 1 1/8" Pitch of stays 17 3/4 x 17 3/8 How are stays secured Nuts Working pressure by rules 182 Material of stays Steel
Diameter at smallest part 6-10 Area supported by each stay 313 Working pressure by rules 194 Material of Front plates at bottom Steel
Thickness 1" Material of Lower back plate Steel Thickness 15/16" Greatest pitch of stays 15" Working pressure of plate by rules 180
Diameter of tubes 3 1/2" Pitch of tubes 4 1/2" Material of tube plates Steel Thickness: Front 1" Back 3/4" Mean pitch of stays 11 1/4"
Pitch across wide water spaces 14" Working pressures by rules 182 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 x 1 1/2" Length as per rule 31 7/8" Distance apart 8 7/8" Number and pitch of stays in each Two 9 3/4"
Working pressure by rules 196 lbs Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked separately
Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet
Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
Stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed
Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____
 Made at _____ By whom made _____ When made _____ Where fixed _____
 Working pressure tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety Valves _____
 No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____
 If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____
 Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____
 Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____
 Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____
 Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____
 Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____
 Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— *Two tip end, two bottom end, two main bearings & one set of coupling bolts & nuts, one set of feed, bilge, air & circulating pump valves, a quantity of assorted bolts & nuts & wire of various sizes.*

The foregoing is a correct description,

For *W. & A. Lidgerwood* Manufacturers.

Dates of Survey while building { During progress of work in shops— *1906: Apr 24 May 17 18 June 6 20 27 July 5 11 Aug 6 13 17 28*
 { During erection on board vessel— *July 4 9 20 Sept 4 11 13 21 26 Oct 1 13 14 26*
 Total No. of visits *12* Is the approved plan of main boiler forwarded herewith _____

12 Aberdeen " " " donkey " " "
 Dates of Examination of principal parts—Cylinders *18-5-06* Slides *18-5-06* Covers *18-5-06* Pistons *20-6-06* Rods *20-6-06*
 Connecting rods *6-7-06* Crank shaft *6-6-06* Thrust shaft *20-6-06* Tunnel shafts ✓ Screw shaft *27-6-06* Propeller *20-6-06*
 Stern tube *20-6-06* Steam pipes tested *21-9-06* Engine and boiler seatings *1-6-06* Engines holding down bolts *13-9-06*
 Completion of pumping arrangements *13-10-06* Boilers fixed *26-9-06* Engines tried under steam *13-10-06*
 Main boiler safety valves adjusted *13-10-06* Thickness of adjusting washers *Top 5/16 Start 5/16 DR. 13/16 1/2*
 Material of Crank shaft *Steel* Identification Mark on Do. *223* Material of Thrust shaft *Steel* Identification Mark on Do. *223*
 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *Iron* Identification Marks on Do. *223*
 Material of Steam Pipes *Copper* Test pressure *360 lbs 3 1/2 dia P.W.G*

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

The machinery and boiler of this vessel have been built under special survey, the materials and workmanship are of good description, they have been sent on to Aberdeen where they are to be fitted on board.

The above Machinery and boiler along with the donkey boiler (Gls Reg R-24046) have been fitted on board in an efficient manner & the engines tried under steam found satisfactory, which in my opinion entitles her to the notation of L. R. C. 10-06

It is submitted that this vessel is eligible for THE RECORD H.L.M.C. 10.06.

Rel. 1.11.06
Ans. 1.11.06

The amount of Entry Fee. . . £ 1 : :
 Special 3rd class Abn £ 10 : 7 : :
 Donkey Boiler Fee £ : : :
 Travelling Expenses (if any) £ : : :
 When applied for, 3-SEP-1906
 When received, 8-10-06

Jas. Cairns & George Murdoch
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
James C. Clarke

Committee's Minute
 Assigned *Deferred for completion*
For Aberdeen.

Glasgow 3-SEP-1906
 FRI. NOV 2 1906
 TUES. JAN 15 1907
 TUES. JAN 29 1907
 FRI. 7 JUN 1907

Certificate (if required) to be sent to (The Surveyors are requested not to write on or below the space for Committee's Minute.)

Set 26-18
Apr 3-9
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