

REPORT ON MACHINERY.

No. 24372
THUR. 1 NOV 1906

Port of Glasgow

Received at London Office

19

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

Date, first Survey 24 April Last Survey 28th Aug 1906

(Number of Visits 24, 26th Oct)

Tons { Gross 413
Net 118
When built 1906

Master Built at Aberdeen By whom built J. Duffie Son & Co. (No. 265)
Engines made at Coatbridge By whom made W. V. P. Lidgwood when made 1906 (No. 223)
Boilers made at Glasgow By whom made A. & W. Dalglish (No. 269) when made 1906
Registered Horse Power 69.68 Owners North Eastern Shipping Co. Port belonging to Aberdeen
m. Horse Power as per Section 28 69. Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

GINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
a. of Cylinders 24" - 20" - 33 1/2" Length of Stroke 24" Revs. per minute 74 Dia. of Screw shaft as per rule 7 1/2" Material of screw shaft Iron
the screw shaft fitted with a continuous liner the whole length of the stern tube Is the after end of the liner made water tight
the propeller boss 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 Tight fit If two
ers are fitted, is the shaft lapped or protected between the liners Length of stern bush
a. of Tunnel shaft as per rule 6.28" Dia. of Crank shaft journals as per rule 6.68" Dia. of Crank pin 6 3/4" Size of Crank webs 22 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 Total surface 32 ft.
o. of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work
o. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work
o. 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
Engine Room 2" In Holds, &c. Three 2"

o. of Bilge Injections 1 sizes 3" Connected to condenser or to circulating pump C. P. Is a separate Donkey Suction fitted in Engine room & size 2"
re all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible
re all connections with the sea direct on the skin of the ship Are they Valves or Cocks Both
re they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Discharge Pipes above or below the deep water line Above
re they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate
That pipes are carried through the bunkers Hold - Fore peak suction How are they protected Strong wood casings
re all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times
re the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges
ates 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
the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

ILERS, &c.—(Letter for record 5) Manufacturers of Steel plates by Beardmore, but by J. Colville & Son
Total Heating Surface of Boilers 1200 ft. Forced Draft fitted 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
in each boiler be worked separately Area of fire grate in each boiler 38 1/2 ft. No. and Description of Safety Valves to
ch boiler 2 Spring loaded Area of each valve 4.91 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear
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 2732 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams S R Lap
eg. seams 5 inch Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 7/2" Lap of plates or width of butt straps 15 3/4"
er centages of strength of longitudinal joint rivets 88-1 Working pressure of shell by rules 186 lbs Size of manhole in shell 16" x 12"
ize of compensating ring 4' 6" No. and Description of Furnaces in each boiler No, plain Material Steel Outside diameter 43 1/2"
length of plain part top 73" Thickness of plates crown 1 1/4" Description of longitudinal joint Welded No. of strengthening rings one T
bottom 70" 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"
itch of stays to ditto: Sides 9 3/4" x 7 1/2" Back 9 3/4" x 8 1/4" Top 9 3/4" x 8 1/4" 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 7 1/2" Working pressure by rules 216 End plates in steam space:
Material Steel Thickness 1 1/8" Pitch of stays 7 1/4" x 7 1/8" 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 1/4" Pitch of tubes 4 1/2" Material of tube plates Steel Thickness: Front 1" Back 3/4" Mean pitch of stays 11 1/4"
itch across wide water spaces 1 1/4" 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 No 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
les 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	By whom made	When made	Where fixed
Made at	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area
Working pressure	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment
Values	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
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 beams & one set of coupling bolts & nuts, one set of feed, bilge, air & circulating pump valves, a quantity of assorted bolts & nuts & rivs of various sizes.*

The foregoing is a correct description,

For W. & A. Liddell & Co. 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

Dates of Examination of principal parts—Cylinders	18-5-06	Slides	18-6-06	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	Pat 5/16" Star 5/16" DR 3/16" 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.

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

Committee's Minute

Glasgow 3-SEP-1906

FRI. NOV 2 1906

Assigned Deferred for completion For Aberdeen.

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

MACHINERY CERTIFICATE
FRI. 7 JUN 1907

Lloyd's Register
Foundation
TUES. JAN 29 1907