

REPORT ON MACHINERY.

Port of *Glasgow*

No. in Survey held at *Paisley* Date, first Survey *9 Nov. 1901* Last Survey *27 March 1902*
Reg. Book. on the *S.S. Albuera*

Master _____ Built at _____ By whom built *Russell & Co* When built *1902*
Engines made at *Greenock* By whom made *J. G. Niccaid & Co* when made *1902*
Boilers made at *Paisley* By whom made *A. F. Craig & Co Ltd* when made *1902*
Registered Horse Power _____ Owners _____ Port belonging to _____
Nom. Horse Power as per Section 28 _____ Is Refrigerating Machinery fitted _____ Is Electric Light fitted _____

ENGINES, &c.—Description of Engines

Description of Engines			No. of Cylinders	No. of Cranks
Dia. of Cylinders	Length of Stroke	Revs. per minute	Dia. of Screw shaft	Lgth. of stern bush
Dia. of Tunnel shaft	Dia. of Crank shaft journals	Dia. of Crank pin	Size of Crank webs	Dia. of thrust shaft under collars
No. of Feed pumps	Diameter of ditto	Stroke	Can one be overhauled while the other is at work	
No. of Bilge pumps	Diameter of ditto	Stroke	Can one be overhauled while the other is at work	
No. of Donkey Engines	Sizes of Pumps	No. and size of Suctions connected to both Bilge and Donkey pumps		
In Engine Room				
In Holds, &c.				
No. of bilge injections	sizes	Connected to condenser, or to circulating pump	Is a separate donkey suction fitted in Engine room & size	
Are all the bilge suction pipes fitted with roses				
Are all connections with the sea direct on the skin of the ship				
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates				
Are they each fitted with a discharge valve always accessible on the plating of the vessel				
What pipes are carried through the bunkers				
Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times				
Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges				
When were stern tube, propeller, screw shaft, and all connections examined in dry dock				
Is it fitted with a watertight door				

BOILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *4700 sq ft* Is forced draft fitted *No*

No. and Description of Boilers *Two, Single Ended* Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs*
 Date of test *17/2/02* *3/3/02* Can each boiler be worked separately _____ Area of fire grate in each boiler *66 1/2 sq ft* No. and Description of safety valves to each boiler _____
 Area of each valve _____ Pressure to which they are adjusted _____ Are they fitted with easing gear _____
 Smallest distance between boilers or uptakes and bunkers or woodwork _____ Mean dia. of boilers *15-6"* Length *10-10 1/2"* Material of shell plates *Steel*
 Thickness *1 1/2"* Range of tensile strength *28/32* Are they welded or flanged *No* Descrip. of riveting: cir. seams *Double Lap long. seams* *5 rivets*
 Diameter of rivet holes in long. seams *1 5/16"* Pitch of rivets *9"* Lap of plates or width of butt straps *19 1/2"*
 Per centages of strength of longitudinal joint _____ Working pressure of shell by rules *180 lbs* Size of manhole in shell *16" x 12"*
 Size of compensating ring *McNeill's* No. and Description of Furnaces in each boiler *3, Fox's* Material *Steel* Outside diameter *49 1/2"*
 Length of plain part _____ Thickness of plates _____ Description of longitudinal joint *Welded* No. of strengthening rings *None*
 Working pressure of furnace by the rules *190 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *2 1/32"* Back *2 1/32"* Top *2 3/32" Hmg* Bottom *1 1/16"*
 Pitch of stays to ditto: Sides *9 x 9* Back *9 x 9* Top _____ Bottom _____ If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *183*
 Material of stays *Steel* Diameter at smallest part *1 7/8"* Area supported by each stay *115 sq in* Working pressure by rules *199* End plates in steam space: _____
 Material *Steel* Thickness *1 1/32"* Pitch of stays *2 1/2" x 2 1/2"* How are stays secured *Double Nuts* Working pressure by rules *185* Material of stays *Steel*
 Diameter at smallest part *7.50* Area supported by each stay *115 sq in* Working pressure by rules *180* Material of Front plates at bottom *Steel*
 Thickness *3/4"* Material of Lower back plate *Steel* Thickness *3/4"* Greatest pitch of stays *16 1/2"* Working pressure of plate by rules *248*
 Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2"* Material of tube plate *Steel* Thickness: Front *3/4"* Back *3/4"* Mean pitch of stays *10-1"*
 Pitch across wide water spaces *14 1/2"* Working pressures by rules *230 lbs* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *9" x 1 1/2"* Length as per rule *29 1/2"* Distance apart *10 1/2"* Number and pitch of Stays in each *Two, 9"*
 Working pressure by rules *193 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 holes _____
 Pitch of rivets _____ Working pressure of shell by rules _____ Diameter of flue _____ Material of flue plates _____ Thickness _____
 If 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 _____

If not, state whether and when, one will be sent? Is a Report also sent on the Hull of the Ship?

fraying in correct description
W & Craig & Co
Archd. Naim
Manufacturers
Foundation
W490-0159

DONKEY BOILER— No. Description

Made at By whom made When made Where fixed

Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves

No. of safety valves Area of each Pressure to which they are adjusted If fitted with easing gear If steam from main boilers

enter the donkey boiler Dia. of donkey boiler Length Material of shell plates Thickness Range of tens 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 Thickness of shell crown plates Radius of do. No. of Stays to do. Plates

Dia. of stays. Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description joint

Thickness of furnace crown plates Stayed by Working pressure of shell by rules

Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building

During progress of work in shops— 1901: Nov. 9, 13, 18, 20, 30, Dec. 6, 9, 11, 16, 23, 30, 1902: Jan. 8.

During erection on board vessel— 11, 17, 28, Feb. 3, 10, 13, 17, 26, Mar. 3.

Total No. of visits 21.

Is the approved plan of main boiler forwarded herewith *yes*

“ “ “ donkey “ “ *yes*

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

Material of screw shaft Is 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 in 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

If two liners are fitted, is the shaft lapped or protected between the liners

These boilers have been built under special survey. The materials and workmanship are of good quality, they have been tested by hydraulic pressure to 360 lbs per square inch and were found tight and sound at that pressure.

These boilers have been forwarded to Greenock to be fitted on board the S.S. Albuera.

Certificate (if required) to be sent to Committee's Minute.

The amount of Entry Fee. . . £ : : When applied for, . . . 19--

Special £ : : When received, . . . 19--

Donkey Boiler Fee £ : : . . . 19--

Travelling Expenses (if any) £ : : . . . 19--

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

Committee's Minute *Glasgow. 24 MAR 1902*

Assigned *See accompanying Gub. reports*

