

# IRON SHIP.

No. 6408 Survey held at Port Glasgow Date, First Survey 2 March 1844 Last Survey 10 1844  
 On the Steamer "Rio Grande do Sul" Master J. Leighton  
 Tonnage under Tonnage Deck 1133.39 ONE, OR TWO DECKED, THREE DECKED VESSEL.  
 Ditto of Upper Deck 1134.98 SPAR, OR AWNING-DECKED VESSEL.  
 Ditto of Lower Deck 52.14 HALF BREADTH (moulded) 16.35  
 Ditto of Upper Deck 1082.84 DEPTH from upper part of Keel to top of Upper Deck Beams 14  
 Ditto of Lower Deck 244.88 GIRTH of Half Midship Frame (as per Rule) 26.45  
 Ditto of Forecastle 834.96 1st NUMBER 56.8  
 Gross Tonnage 1134.98 1st NUMBER, if a THREE-DECKED VESSEL [deduct 7 feet]  
 Less Beam Space 52.14 LENGTH 234  
 Less Engine Room 244.88 2nd NUMBER 13461  
 Register Tonnage 834.96 PROPORTIONS—Breadths to Length 4.2  
 as cut on Beam) Depths to Length—Upper Deck to Keel 16.9  
 Main Deck ditto 16.9  
 Built at Port Glasgow  
 When built 1844 Launched  
 By whom built William Hamilton  
 Owners Rio Grande do Sul Steamers  
 Port belonging to London  
 Destined Voyage Antwerp  
 Surveyed while Building, Afloat, or in Dry Dock.

LENGTH on deck as per Rule 234.0 BREADTH Moulded 32.4 DEPTH top of Floors to Upper Deck Beams 14.66 Power of Engines 120 N° of Decks with flat laid Two  
 Do. do. Main Deck Beams 12.66 N° of Tiers of Beams Two  
 Dimensions of Ship per Register, length, 234.2 breadth, 33.1 depth, 19.5

	Inches in Ship.	Inches per Rule.	Inches required per Rule.	Inches required per Rule.	Inches required per Rule.
KEEL, depth and thickness	<u>4 1/4 x 2 3/8</u>	<u>4 1/4 x 2 3/8</u>	<u>4 1/4 x 2 3/8</u>	<u>4 1/4 x 2 3/8</u>	<u>4 1/4 x 2 3/8</u>
STEM, moulding and thickness	<u>4 1/4 x 2 3/8</u>	<u>4 1/4 x 2 3/8</u>	<u>4 1/4 x 2 3/8</u>	<u>4 1/4 x 2 3/8</u>	<u>4 1/4 x 2 3/8</u>
STERN-POST for Rudder do. do.	<u>4 1/4 x 4 3/4</u>	<u>4 1/4 x 4 3/4</u>	<u>4 1/4 x 4 3/4</u>	<u>4 1/4 x 4 3/4</u>	<u>4 1/4 x 4 3/4</u>
for Propeller	<u>4 1/4 x 4 3/4</u>	<u>4 1/4 x 4 3/4</u>	<u>4 1/4 x 4 3/4</u>	<u>4 1/4 x 4 3/4</u>	<u>4 1/4 x 4 3/4</u>
Distance of Frames from moulding edge to moulding edge, all fore and aft	<u>23</u>	<u>23</u>	<u>23</u>	<u>23</u>	<u>23</u>
FRAMES, Angle Iron, for 1/2 length amidships	<u>3 1/2 x 3 1/2</u>	<u>3 1/2 x 3 1/2</u>	<u>3 1/2 x 3 1/2</u>	<u>3 1/2 x 3 1/2</u>	<u>3 1/2 x 3 1/2</u>
Do. for 1/2 at each end	<u>3 1/2 x 3 1/2</u>	<u>3 1/2 x 3 1/2</u>	<u>3 1/2 x 3 1/2</u>	<u>3 1/2 x 3 1/2</u>	<u>3 1/2 x 3 1/2</u>
REVERSED FRAMES, Angle Iron	<u>2 1/2 x 2 1/2</u>	<u>2 1/2 x 2 1/2</u>	<u>2 1/2 x 2 1/2</u>	<u>2 1/2 x 2 1/2</u>	<u>2 1/2 x 2 1/2</u>
FLOORS, depth and thickness of Floor Plate	<u>1 1/2 x 1 1/2</u>	<u>1 1/2 x 1 1/2</u>	<u>1 1/2 x 1 1/2</u>	<u>1 1/2 x 1 1/2</u>	<u>1 1/2 x 1 1/2</u>
at mid line for half length amidships	<u>1 1/2 x 1 1/2</u>	<u>1 1/2 x 1 1/2</u>	<u>1 1/2 x 1 1/2</u>	<u>1 1/2 x 1 1/2</u>	<u>1 1/2 x 1 1/2</u>
thickness at the ends of vessel	<u>1 1/2 x 1 1/2</u>	<u>1 1/2 x 1 1/2</u>	<u>1 1/2 x 1 1/2</u>	<u>1 1/2 x 1 1/2</u>	<u>1 1/2 x 1 1/2</u>
depth at 1/2 the half-bdth. as per Rule	<u>1 1/2 x 1 1/2</u>	<u>1 1/2 x 1 1/2</u>	<u>1 1/2 x 1 1/2</u>	<u>1 1/2 x 1 1/2</u>	<u>1 1/2 x 1 1/2</u>
height extended at the Bilges	<u>3 1/2 x 3 1/2</u>	<u>3 1/2 x 3 1/2</u>	<u>3 1/2 x 3 1/2</u>	<u>3 1/2 x 3 1/2</u>	<u>3 1/2 x 3 1/2</u>
BEAMS, Upper, Spar, or Awning Deck	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>
Single or double Angle Iron, Plate or Tee Bulb Iron	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>
Single or double Angle Iron on Upper Edge	<u>2 1/2 x 2 1/2</u>	<u>2 1/2 x 2 1/2</u>	<u>2 1/2 x 2 1/2</u>	<u>2 1/2 x 2 1/2</u>	<u>2 1/2 x 2 1/2</u>
Average space	<u>46</u>	<u>46</u>	<u>46</u>	<u>46</u>	<u>46</u>
BEAMS, Main, or Middle Deck	<u>8 x 8</u>	<u>8 x 8</u>	<u>8 x 8</u>	<u>8 x 8</u>	<u>8 x 8</u>
Single or double Angle Iron, Plate or Tee Bulb Iron	<u>8 x 8</u>	<u>8 x 8</u>	<u>8 x 8</u>	<u>8 x 8</u>	<u>8 x 8</u>
Single or double Angle Iron on Upper Edge	<u>3 x 3</u>	<u>3 x 3</u>	<u>3 x 3</u>	<u>3 x 3</u>	<u>3 x 3</u>
Average space	<u>46</u>	<u>46</u>	<u>46</u>	<u>46</u>	<u>46</u>
BEAMS, Lower Deck, Hold, or Orlop	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>
Single or double Angle Iron, Plate or Tee Bulb Iron	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>
Single or double Angle Iron on Upper Edge	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>
Average space	<u>46</u>	<u>46</u>	<u>46</u>	<u>46</u>	<u>46</u>
KEELSONS Centre line, single or double plate	<u>21 x 4</u>	<u>21 x 4</u>	<u>21 x 4</u>	<u>21 x 4</u>	<u>21 x 4</u>
do. or Intercoastal, Plates	<u>21 x 4</u>	<u>21 x 4</u>	<u>21 x 4</u>	<u>21 x 4</u>	<u>21 x 4</u>
" Rider Plate	<u>4 x 4</u>	<u>4 x 4</u>	<u>4 x 4</u>	<u>4 x 4</u>	<u>4 x 4</u>
" Bulb Plate to Intercoastal Keelson	<u>4 x 4</u>	<u>4 x 4</u>	<u>4 x 4</u>	<u>4 x 4</u>	<u>4 x 4</u>
" Angle Irons	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>
" Double Angle Iron Side Keelson	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>
" Side Intercoastal Plate	<u>18 x 4</u>	<u>18 x 4</u>	<u>18 x 4</u>	<u>18 x 4</u>	<u>18 x 4</u>
" do. Angle Irons	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>
" Attached to outside plating with angle iron	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>
BILGE Angle Irons	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>
" do. Bulb Iron	<u>8 x 8</u>	<u>8 x 8</u>	<u>8 x 8</u>	<u>8 x 8</u>	<u>8 x 8</u>
" do. Intercoastal plates riveted to plating for 1/2 length	<u>15 x 4</u>	<u>15 x 4</u>	<u>15 x 4</u>	<u>15 x 4</u>	<u>15 x 4</u>
BILGE STRINGER Angle Irons	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>
Intercoastal plates riveted to plating for 1/2 length	<u>10 x 4</u>	<u>10 x 4</u>	<u>10 x 4</u>	<u>10 x 4</u>	<u>10 x 4</u>
SIDE STRINGER Angle Irons	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>	<u>5 x 3 1/2</u>
Transoms, material. Knight-heads. Hawse Timbers.	<u>Span</u>	<u>Span</u>	<u>Span</u>	<u>Span</u>	<u>Span</u>
Windlass <u>Iron Patent</u> Pall Bitt	<u>Iron Patent</u>	<u>Iron Patent</u>	<u>Iron Patent</u>	<u>Iron Patent</u>	<u>Iron Patent</u>

The FRAMES extend in one length from Keel to Gunwale Riveted through plates with 3/4 in. Rivets, about 6 apart.  
 The REVERSED ANGLE IRONS on floors and frames extend from middle line to Main Deck and to Upper Deck alternately in  
 KEELSONS. Are the various lengths of Plates and Angle Irons properly connected? Yes And butts properly shifted? Yes  
 PLATING. Garboard, double riveted to Keel, with rivets 1 in. diameter, averaging 4 1/2 ins. from centre to centre.  
 Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets 3/4 in. diameter, averaging 3 1/2 ins. from centre to centre.  
 Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 3/4 in. diameter averaging 3 1/2 ins. from centre to centre.  
 Butts of two Strakes at Bilge for half length, treble riveted with Butt Straps 1/16 thicker than the plates they connect.  
 Edges from bilge to Main Sheerstrake, worked clencher, double or single riveted; with rivets 3/4 in. diameter, averaging 3 1/2 ins. from cr. to cr.  
 Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 3/4 in. diameter, averaging 3 1/2 ins. from cr. to cr.  
 Edges of Main Sheerstrake, double or single riveted. Upper Sheerstrake, double or single riveted.  
 Butts of Main Sheerstrake, treble riveted for half length amidships. Butts of Upper or Spar Sheerstrake, treble riveted — length amidships.  
 Butts of Main Stringer Plate, treble riveted for half length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for — length.  
 Breadth of laps of plating in double riveting 4 1/2 Breadth of laps of plating in single riveting —  
 Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted?  
 Waterway, how secured to Beams Screw Bolts & Nuts (Explain by Sketch, if necessary.)  
 Beams of the various Decks, how secured to the sides? Beam ends turned down No. of Breasthooks, 5 Crutches, 5  
 What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Best  
 Manufacturer's name or trade mark, Angels Bull, Messrs, Holytown, Coatbridge. Plates, Messrs, & Co.  
 The above is a correct description.  
 Builder's Signature, Wm Hamilton & Co Surveyor's Signature, H. H. H. H.  
 Surveyor to Lloyd's Register of British and Foreign Shipping



Are the butts of plating planed or otherwise fitted? *Planed*  
of the carvel work and of the butts lay close together throughout their length without requiring any making good of deficiencies? *Yes*  
between the ribs and plates solid single pieces? *Yes*  
riveting plate to frames, butt straps, or plate to plate, &c., conform well to each other? *Yes*  
as well and sufficiently countersunk in the plate and punched from the faying surfaces? *Yes*  
break into or through the seams or butts of the plating? *A few*

Mast, Yards, &c., are *Wood* in *good* condition, and sufficient in size and length. If of Iron or Steel give  
Scantlings of Plating, Angle Irons, &c., and further explain by a Sketch showing how the lower Masts and Bowsprit are constructed, showing  
the number of Plates and Angle Irons, mode of riveting, quality of Materials, and if stamped with Maker's name.

State also Length and Diameter of Lower Masts and Bowsprit *Polk Masts*

NUMBER for EQUIPMENT

N <sup>o</sup> .	SAILS.	CABLES, &c.	Fathoms.	Inches.	Test per Certificate.	Length & Size req'd per Rule.	Test req'd per Rule.	ANCHORS.	N <sup>o</sup> .	Weight. Ex. Stock.	Test per Certificate.	Weight req'd per Rule.	Test req'd per Rule.
One	Fore Sails,	Chain	119.4	1 1/2	40 1/2 x 58 1/2	240 1/2	40 1/2	Bowers	1946	21.2.6	22.0.1.0	21.0.0.0	21 1/2
One	Fore Top Sails,	Neltherton Public Test 12 <sup>th</sup> November 1874.	120.2	1 1/2	40 1/2 x 58 1/2	176	40 1/2	Stream	1	8.3.26	9.0.0.0	9.0.0.0	18 1/2
One	Fore Topmast Stay Sails	M. H. Reade Superintendent	90	1 1/2	15 1/2	15 1/2	15 1/2	Kedges	1	1.2.6	1.2.0.0	1.2.0.0	1.2.0.0
One	Main Sails,	Hmpn Strm Cbl	45	6	8	9	5 1/2						
One	Main Top Sails,	Hawser ...	45	8	8	9	5 1/2						
One	and	Towlines ...	45	8	8	9	5 1/2						
One		Warp ...	45	5	5	5	5 1/2						
One		quality good											

Standing and Running Rigging *Wire Hempen* sufficient in size and *good* in quality. She has *Two* Life Boats and *3* others  
The Windlass is *Gammessons Walker's* Capstans *Steele's* and Rudder *Patent Screw* Pumps *One to each compartment*  
Engine Room Skylights. How constructed? *Iron Corrugated 30" above ceiling deck* How secured in ordinary weather? *Wood shutters with Bullseyes*  
What arrangements for deadlights in bad weather? *None*  
Coal Bunker Openings. How constructed? *Cast iron Rims & Lids* How are lids secured? *By Bars* Height above deck? *Flush*  
Scuppers, &c. What arrangements for clearing upper deck of water, in case of shipping a sea? *Open Bulwarks*

Cargo Hatchways. How formed? *Spon Corrugated*

State size Main Hatch *19' 3" x 10' 0"* Fore hatch *11' 6" x 4' 0"* Quarter hatch *15' 3" x 4' 6"*

If of extraordinary size, state how framed and secured?

What arrangement for shifting beams? *One at Main Hatch*

Hatches, If strong and efficient? *Yes*

Order for Special Survey No. *684* Date *17 March 1874*  
Order for Ordinary Survey No. *28* Date *17 March 1874*  
No. *28* in builder's yard  
1st. On the several parts of the frame, when in place, and before the plating was wrought *Built under S.S. and surveyed 1874 - March 2, 10,*  
2nd. On the plating during the process of riveting *23, 26, 30, April 1, 9, 14, 16, 20, 30, May 4, 8, 12, 20, 21, 24, 29,*  
3rd. When the beams were in and fastened, and before the decks were laid *June 2, 8, 11, 16, 19, 25, July 4, 13, 14, 20, August 4, 8, 11, 14, 19, 25, 28,*  
4th. When the ship was complete, and before the plating was finally coated or cemented *Sept. 3, 10, 23, Oct. 2, 9, 16, 19, 22, November 5, 11, 19, 23, 30,*  
5th. After the ship was launched and equipped *December 29, 1875 - January 12, 13, 14, 15, 16, 19, 22, Feb. 1, 5, 6, 10,*

General Remarks (State quality of workmanship, &c.) *This Vessel is rigged as a Schooner and being over 100 feet in length, and having a complete Awning deck without Ports and Scuppers at Main Deck the scantlings and arrangements as per midship section appended to Report of Survey on Sister Ship N<sup>o</sup> 100 A were submitted on 11<sup>th</sup> February 1874 and approved for the 90 A; subsequently the class was raised to 100 A making her a similar Vessel being for the same Owners and intended for the same trade as the S.S. "Emma Isabel" Report of Survey N<sup>o</sup> 6631 which Vessel in consideration of the additional strength introduced for 100 A was granted by the Committee a maximum mean load draught of water of 13 feet, and as in the cases referred to the plating of this Vessel is marked with a white band two and a half inches wide painted on a black ground on each side for about 6 feet in midships at the 13 feet mark.*  
*The materials used in the construction of this Vessel are of the best description, and the workmanship is good.*

State if one, two, or three, decked vessel, or if open, or awning decked; and the length of poop, forecabin, or raised quarter deck, and the length of double, or part double bottom.

How are the surfaces preserved from oxidation? Inside *Portland Cement 16 above turn of Belay* Outside *Three coats of Paint*

I am of opinion this Vessel should be Classed *100 A 1*

The amount of the Entry Fee ... £ 5: 0: 0 is received by me, *James Morrison*

Special ... £ 52: 1: 0 4 Feb 1875

Certificate ... £ 0: 0: 0

(Travelling Expenses, if any, £ ...)

Committee's Minute *12<sup>th</sup> February* 18 *75*

Character assigned *100 A 1*

*Awning Deck*  
*Max. Load 13 feet*

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