

# IRON SHIP.

No. 4118 Survey held at *Port Glasgow* Date, First Survey *11<sup>th</sup> April* Last Survey *30<sup>th</sup> November 1846*

On the *Screw Steam Vessel "Emu"* Master *R W Osborne*

TONNAGE under } *611.05* ONE, OR TWO DECKED, THREE DECKED VESSEL.  
 Ditto of Third, Spar, or Awning Deck. }  
 Ditto of Poop, or Raised Qr. Dk. }  
 Ditto of Houses on Deck } *10.10*  
 Ditto of Forecastle }  
 Gross Tonnage *621.23*  
 Less Crew Space *29.84*  
 Less Engine Room *198.49*  
 Register Tonnage as out on Beam } *392.6*

SPAR, OR AWNING-DECKED VESSEL.  
 HALF BREADTH (moulded)... *12.41*  
 DEPTH from upper part of Keel to top of Upper Deck Beam... *12.83*  
 GIRTH of Half Midship Frame (as per Rule)... *21.41*  
 1st NUMBER... *47.05*  
 1st NUMBER, if a THREE-DECKED VESSEL...  
 LENGTH... *148.45*  
 2nd NUMBER... *8420*  
 PROPORTIONS—Breadths to Length... *4.2*  
 Depths to Length—Upper Deck to Keel...  
 Main Deck ditto... *13.9*

Built at *Port Glasgow*  
 When built *1846* Launched *16 Sept<sup>r</sup> 1846*  
 By whom built *Blackwood & Gordon*  
 Owners *Osborne & others*  
 Port belonging to *Adelaide*  
 Destined Voyage *Adelaide*  
 If Surveyed while Building, Afloat, or in Dry Dock.

LENGTH of deck as per Rule... *148.45* BREADTH—Moulded... *24.02* DEPTH top of Floors to Upper Deck Beams... *10.43* Power of Engines... *95* Horse. No. of Decks with flat laid *two* No. of Tiers of Beams *two*

Dimensions of Ship per Register, length, *149.4* breadth, *25.1* depth, *10.4*

	Inches in Ship.	Inches per Rule.		Inches in Ship.	Inches per Rule.
KEEL, depth and thickness	<i>4 1/4 x 1 1/2</i>	<i>4 1/4 x 1 1/2</i>	PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges of doubling at Bilge, or increased thickness, and length applied	<i>35</i>	<i>30</i>
STEM, moulding and thickness	<i>6 1/2 x 1 1/2</i>	<i>6 1/2 x 1 1/2</i>	fm up. part of Bilge to l. edge of Sh'rstrake	<i>33</i>	<i>33</i>
STERN-POST for Rudder do. do.	<i>8 x 8 3/8</i>	<i>6 1/2 x 3 1/4</i>	Main Sheerstrake, breadth and thickness of d'bling at Sh'rstrake, & length applied from Mn. to Upper or Lower Dk. Sh'rstrake.	<i>5</i>	<i>5</i>
for Propeller	<i>21</i>	<i>21</i>	Upper Dk Sh'rstrake, brdth & thickness	<i>21</i>	<i>21</i>
Distance of Frames from moulding edge to moulding edge, all fore and aft	<i>21</i>	<i>21</i>	Butt Straps to outside plating, breadth & thickness	<i>6</i>	<i>6</i>
FRAMES, Angle Iron, for 1/2 length amidships	<i>3</i>	<i>3</i>	Lengths of Plating	<i>6</i>	<i>6</i>
Do. for 1/2 at each end	<i>3</i>	<i>3</i>	Shifts of Plating, and Stringers	<i>2</i>	<i>2</i>
REVERSED FRAMES, Angle Iron	<i>2 1/2</i>	<i>2 1/2</i>	Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness	<i>21</i>	<i>21</i>
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	<i>13 1/2</i>	<i>13 1/2</i>	Angle Iron on ditto	<i>3 x 3 x 6</i>	<i>3 x 3 x 6</i>
thickness at the ends of vessel	<i>13 1/2</i>	<i>13 1/2</i>	Tie Plates fore and aft, outside Hatchways	<i>8</i>	<i>8</i>
depth at 1/2 the half-bdth. as per Rule	<i>4</i>	<i>4</i>	Diagonal Tie Plates on Beams No. of Pairs,	<i>12 x 4</i>	<i>12 x 4</i>
height extended at the Bilges	<i>40</i>	<i>40</i>	Planksheer material and scantling	<i>12 x 4</i>	<i>12 x 4</i>
BEAMS, Upper, Spar, or Awning Deck	<i>4 1/2</i>	<i>4 1/2</i>	Waterways do. do.	<i>5 x 2 1/2</i>	<i>5 x 2 1/2</i>
Single or double Angle Iron, Plate or Tee Bulb Iron	<i>4 1/2</i>	<i>4 1/2</i>	Flat of Upper Deck do. do.	<i>5 x 2 1/2</i>	<i>5 x 2 1/2</i>
Single or double Angle Iron on Upper edge	<i>4 1/2</i>	<i>4 1/2</i>	How fastened to Beams	<i>42</i>	<i>42</i>
Average space	<i>42</i>	<i>42</i>	Stringer Plate on ends of Main or Middle Deck	<i>42</i>	<i>42</i>
BEAMS, Main, or Middle Deck	<i>6</i>	<i>6</i>	Beams, breadth and thickness	<i>42</i>	<i>42</i>
Single or double Angle Iron, Plate or Tee Bulb Iron	<i>6</i>	<i>6</i>	Is the Stringer Plate attached to the outside plating?	<i>yes</i>	<i>yes</i>
Single or double Angle Iron, on Upper Edge	<i>2 1/2</i>	<i>2 1/2</i>	Angle Irons on ditto, No.	<i>3 1/2 x 3 x 6</i>	<i>3 1/2 x 3 x 6</i>
Average space	<i>42</i>	<i>42</i>	Tie Plates, outside Hatchways	<i>8</i>	<i>8</i>
BEAMS, Lower Deck, Hold, or Orlop	<i>4 1/2</i>	<i>4 1/2</i>	Diagonal Tie Plates on Beams, No. of pairs	<i>12 x 5</i>	<i>12 x 5</i>
Single or double Angle Iron, Plate or Tee Bulb Iron	<i>4 1/2</i>	<i>4 1/2</i>	Waterways materials and scantlings	<i>3 1/2</i>	<i>3 1/2</i>
Single or double Angle Iron on Upper Edge	<i>4 1/2</i>	<i>4 1/2</i>	Flat of Lower Deck do. do.	<i>3 1/2</i>	<i>3 1/2</i>
Average space	<i>42</i>	<i>42</i>	How fastened to Beams	<i>42</i>	<i>42</i>
KEELSONS Centre line, single or double plate, box or Intercostal, Plates	<i>11</i>	<i>11</i>	Stringer Plates on ends of Lower Deck, Hold or Orlop Beams	<i>42</i>	<i>42</i>
Rider Plate	<i>4 1/2</i>	<i>4 1/2</i>	Is the Stringer Plate attached to the outside plating?	<i>yes</i>	<i>yes</i>
Bulb Plate to Intercostal Keelson	<i>4 1/2</i>	<i>4 1/2</i>	Angle Irons on ditto, No.	<i>3 1/2 x 3 x 6</i>	<i>3 1/2 x 3 x 6</i>
Angle Irons	<i>3 1/2</i>	<i>3 1/2</i>	Stringer or Tie Plates, outside Hatchways	<i>8</i>	<i>8</i>
Double Angle Iron Side Keelson	<i>3 1/2</i>	<i>3 1/2</i>	Flat of Lower Deck	<i>12 x 5</i>	<i>12 x 5</i>
Side Intercostal Plate	<i>4</i>	<i>4</i>	Ceiling betwixt Decks, thickness and material	<i>2 1/2</i>	<i>2 1/2</i>
do. Angle Irons	<i>4</i>	<i>4</i>	in hold do. do.	<i>2 1/2</i>	<i>2 1/2</i>
Attached to outside plating with angle iron	<i>no</i>	<i>no</i>	Main piece of Rudder, diameter at head	<i>4 1/2</i>	<i>4 1/2</i>
BILGE Angle Irons	<i>3 1/2</i>	<i>3 1/2</i>	do. at heel	<i>2 1/2</i>	<i>2 1/2</i>
do. Bulb Iron	<i>6</i>	<i>6</i>	Can the Rudder be unshipped afloat?	<i>yes</i>	<i>yes</i>
do. Intercostal plates riveted to plating for length	<i>6</i>	<i>6</i>	Bulkheads No.	<i>4</i>	<i>4</i>
BILGE STRINGER Angle Irons	<i>3 1/2</i>	<i>3 1/2</i>	Height up	<i>to Main Deck</i>	<i>to Main Deck</i>
Intercostal plates riveted to plating for length	<i>6</i>	<i>6</i>	How secured to sides of ship	<i>double frames</i>	<i>double frames</i>
SIDE STRINGER Angle Irons	<i>3 1/2</i>	<i>3 1/2</i>	Size of Vertical Angle Irons	<i>2 1/2 x 2 1/2 x 5/8</i>	<i>2 1/2 x 2 1/2 x 5/8</i>
Transoms, material. Knight-heads. Hawse Timbers.	<i>Iron</i>	<i>Iron</i>	Are the outside Plates doubled two spaces of Frames in length?	<i>yes</i>	<i>yes</i>
Windlass	<i>Iron Patent</i>	<i>Iron Patent</i>			
Pall Bitt	<i>Iron</i>	<i>Iron</i>			

The FRAMES extend in one length from *Keel* to *gunwale* Riveted through plates with *3/4* in. Rivets, about *8* in. apart.  
 The REVERSED ANGLE IRONS on floors and frames extend *across* middle line to *above Bilge Stringer* and to *above Main or Orlop Stringer* alternately  
 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 *3* 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 1/4* ins. from centre to centre.  
 Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets *3/4* in. diameter averaging *3 1/4* ins. from centre to centre.  
 Butts of *one* Strake at Bilge for *half* length, *double* 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 1/4* ins. from cr. to cr.  
 Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets *3/4* in. diameter, averaging *3 1/4* ins. from cr. to cr.  
 Edges of Main Sheerstrake, *double* or single riveted. Upper Sheerstrake, double or single riveted.  
 Butts of Main Sheerstrake, *double* riveted for *whole* length amidships. Butts of Upper or Spar Sheerstrake, treble riveted *1* length amidships.  
 Butts of Main Stringer Plate, *double* riveted for *whole* length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for *1* length.  
 Breadth of laps of plating in double riveting *4 1/2* Breadth of laps of plating in single riveting *2 3/4*  
 Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted?  
 Waterway, how secured to Beams *Screw Bolted Nuts* (Explain by Sketch, if necessary.)  
 Beams of the various Decks, how secured to the sides? *Riveted knee plates* No. of Breasthooks, *5* Crutches, *4*  
 What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? *Best*  
 Manufacturer's name or trade mark, *Angle Irons Dalziel Plates & Kerne*

The above is a correct description.  
 Builder's Signature, *Pro Blackwood & Gordon* Surveyor's Signature, *Edmund Bouchman*  
 Manager

IRON 469-02.49



Workmanship. Are the butts of plating planed or otherwise fitted? *planed*  
Do the edges of the carvel work and of the butts lay close together throughout their length without requiring any making good of deficiencies? *yes*  
Are the fillings between the ribs and plates solid single pieces? *yes*  
Do the holes for riveting plate to frames, butt straps, or plate to plate, &c., conform well to each other? *yes*  
Are the rivet holes well and sufficiently countersunk in the plate and punched from the faying surfaces? *yes* 17425 Iron  
Do any rivets break into or through the seams or butts of the plating? *very few*

Masts, Bowsprit, Yards, &c., are *of 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 *Light Pole Masts (2 in No)*

NUMBER for EQUIPMENT		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.	W'ght req'd per Rule.	Test req'd per Rule.
9800												
9832												
N <sup>o</sup> .	SAILS.	CABLES, &c.										
	Fore Sails,	Chain	90.23	3	25.4.2.0	19.5.0.0	Bowers	3304	12.2.14	14.8.1.0	12.0.0	15.2.0
	Fore Top Sails,		105.0.5	16	38.0.0.0	1.16		3303	12.1.10	14.4.0.0		
	Fore Topmast Stay Sails							3330	10.1.15	12.8.3.0	10.0.28	12.4.0
	Main Sails,	Hmpn Strm Cbl	90	9		9						
	Main Top Sails,	Hawser ...	90	16		9						
	and Spare Sails	Towlines ...	90	4			Stream	1	5.0.5		2.2.0	
		Warp ...	90	4			Kedges	1	2.2.4		1.1.0	
		quality	good									

Standing and Running Rigging *wire & Hempen* sufficient in size and *good* in quality. She has *two* Boats and *2* others  
The Windlass is *Napier's Patent* Capstan *2 1/2" diameter* and Rudder *efficient* Pumps *in each compartment*  
Engine Room Skylights.—How constructed? *Iron trunk Bulkheads & secured in ordinary weather? Quadrants wire grating*  
What arrangements for deadlights in bad weather? *Tarpanlins*  
Coal Bunker Openings.—How constructed? *Cast Iron Lids & Lids* How are lids secured? *Self locking* Height above deck? *flush*  
Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shir ing a sea? *Open Bulwarks*

Cargo Hatchways.—How formed? *Iron Corning*  
State size Main Hatch Forehatch *12'0" x 8'0"* Quarterhatch *11'0" x 8'0"*  
If of extraordinary size, state how framed and secured?  
What arrangement for shifting beams?  
Hatches, If strong and efficient? *yes*

Order for Special Survey No. <i>80</i>	DATES of Surveys held while building as per Section 18.	1st. On the several parts of the frame, when in place, and before the plating was wrought	<i>Built under S.P. and Surveyed 1876 April 11</i>
Date <i>24 April 1876</i>		2nd. On the plating during the process of riveting	<i>May 16.23.26.30. June 2.4.10.14.16.24</i>
Order for Ordinary Survey No. <i>✓</i>		3rd. When the beams were in and fastened, and before the decks were laid...	<i>July 5.11.22.28. August 4.16.24 September 1</i>
Date <i>✓</i>		4th. When the ship was complete, and before the plating was finally coated or cemented..	<i>6.14.21.24 October 19.24.30 November 3</i>
No. <i>139</i> in builder's yard.		5th. After the ship was launched and equipped	<i>8.15.17.22.24.30</i>

General Remarks (State quality of workmanship, &c.) *This vessel has been built in conformity with the Rules and Midship Section & longitudinal plan herewith appended. which were submitted to the Committee and approved in letter dated 20<sup>th</sup> April 1876. The Scantlings and arrangements in the Boiler space as shewn in accompanying sketch and required by the Committee in letter of the 24<sup>th</sup> May 1876 have been complied with by doubling the stringer plate with 21 x 3/16 plating and attaching the Iron Deck over the Boiler to the stringer plate with 3/16 plate, and by one strong beam in Engine Room, the fore beam being of ordinary size attached to the Bulk-head across the ship*

*The Lead line approved by the Committee viz 12 ft. has been marked with a Diamond and Bar on the Deepel Amidships in accordance with Circular letter No 354*

*The workmanship & materials are of the best description*

State if one, two, or three, decked vessel, or if spar, or awning decked; and the lengths 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 to above Bulkheads & Red Lead below* Outside *Red Lead & Paint*  
I am of opinion this Vessel should be Classed *100 A1*

The amount of the Entry Fee ... £ *5 0 0* is received by me, *Wm. R. Buchanan*  
Special ... £ *29 11 0* 1876  
Certificate ... £ *2 0 0*  
(Travelling Expenses, if any, £ ... ) *£ 34 11 0*

Committee's Minute *5<sup>th</sup> December 1876*  
Character assigned *100 A1*  
*12 ft lead line*  
*Lloyd's Register*  
*12 feet lead line*