

# IRON SHIP.

No. 4542 Survey held at Port Glasgow Date, First Survey 13<sup>th</sup> Nov<sup>r</sup> 1877 Last Survey 29<sup>th</sup> October 1878 No. 12/11/78  
 On the Ship "Westland" Master Not appointed

**TONNAGE** under Tonnage Deck 1047 1/2 **ONE, OR TWO DECKED, THREE DECKED VESSEL.**  
 Ditto of Third, Spar, or Awning Deck. — **SPAR, OR AWNING DECKED VESSEL.**  
 Ditto of Poop, or Raised Or Deck 41.15 **HALF BREADTH** (moulded) 14.5  
 Ditto of Houses on Deck 16.80 **DEPTH** from upper part of Keel to top of Upper Deck Beams 23.165  
 Ditto of Forecastle 50.73 **GIRTH** of Half Midship Frame (as per Rule) 34.9  
 Gross Tonnage 1186.4 **1st NUMBER** 75365  
 Less Gun Space 70.4 **1st NUMBER, if a THREE-DECKED VESSEL** [deduct 7 feet]  
 Less Engine Room 1116. **LENGTH** 213.67  
 Register Tonnage as cut on Beam — **2nd NUMBER** 16.145773  
**PROPORTIONS**—Breadths to Length 6.7  
 Depths to Length—Upper Deck to Keel —  
 Main Deck ditto 9.2

Built at Port Glasgow  
 When built 1877.78 Launched 12<sup>th</sup> Oct<sup>r</sup> 1877  
 By whom built Robt. Duncan & Co.  
 Owners Not given  
 Port belonging to Glasgow  
 Destined Voyage —  
 Surveyed while Building, Afloat, or in Dry Dock. —

**LENGTH** on deck as per Rule 213.67 **BREADTH** Moulded 35.0 **DEPTH** top of Floors to Upper Deck Beams 21.21 **Power of Engines** — **Horse.** — **Nº. of Decks with flat laid** Two **Nº. of Tiers of Beams** Two  
 Dimensions of Ship per Register, length, 222.85 breadth, 35.1 depth, 21.05

	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.	Inches in Ship.	Inches per Rule.
<b>KEEL</b> , depth and thickness	8 1/2 x 2 1/2	8 1/2 x 2 1/2	8 1/2 x 2 1/2	8 1/2 x 2 1/2	8 1/2 x 2 1/2	8 1/2 x 2 1/2	8 1/2 x 2 1/2	8 1/2 x 2 1/2
<b>STEM</b> , moulding and thickness	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2
<b>STERN-POST</b> for Rudder do. do.	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2	8 x 2 1/2
for Propeller	23	23	23	23	23	23	23	23
Distance of Frames from moulding edge to moulding edge, all fore and aft	23	23	23	23	23	23	23	23
<b>FRAMES</b> , Angle Iron, for 1/2 length amidships	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4
Do. for 1/4 at each end	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4
<b>REVERSED FRAMES</b> , Angle Iron	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4
<b>FLOORS</b> , depth and thickness of Floor Plate at mid line for half length amidships	23 1/2	23 1/2	23 1/2	23 1/2	23 1/2	23 1/2	23 1/2	23 1/2
thickness at the ends of vessel	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2
depth at 1/4 the half-bdth. as per Rule	12	12	12	12	12	12	12	12
height extended at the Bilges	60	60	60	60	60	60	60	60
<b>BEAMS</b> , Upper, Spar, or Awning Deck Single or double Angle Iron, Plate or Tee Bulb Iron	—	—	—	—	—	—	—	—
Single or double Angle Iron on Upper edge	—	—	—	—	—	—	—	—
Average space	—	—	—	—	—	—	—	—
<b>BEAMS</b> , Main, or Middle Deck Single or double Angle Iron, Plate or Tee Bulb Iron	—	—	—	—	—	—	—	—
Single or double Angle Iron on Upper Edge	—	—	—	—	—	—	—	—
Average space	—	—	—	—	—	—	—	—
<b>BEAMS</b> , Lower Deck, Hold, or Orlop Single or double Angle Iron, Plate or Tee Bulb Iron	—	—	—	—	—	—	—	—
Single or double Angle Iron on Upper Edge	—	—	—	—	—	—	—	—
Average space	—	—	—	—	—	—	—	—
<b>KEELSONS</b> Centre line, single or double plate, box, or Intercoastal Plates	16	16	16	16	16	16	16	16
" Rider Plate	11	11	11	11	11	11	11	11
" Bulb Plate to Intercoastal Keelson	—	—	—	—	—	—	—	—
" Angle Irons	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4
" Double Angle Iron Side Keelson	—	—	—	—	—	—	—	—
" Side Intercoastal Plate	—	—	—	—	—	—	—	—
" do. Angle Irons	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4
" Attached to outside plating with angle iron	3 3/4 x 3 1/4	3 3/4 x 3 1/4	3 3/4 x 3 1/4	3 3/4 x 3 1/4	3 3/4 x 3 1/4	3 3/4 x 3 1/4	3 3/4 x 3 1/4	3 3/4 x 3 1/4
<b>BILGE</b> Angle Irons	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4
" do. Bulb Iron	—	—	—	—	—	—	—	—
" do. Intercoastal plates riveted to plating for length	—	—	—	—	—	—	—	—
<b>BILGE STRINGER</b> Angle Irons	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4	5 3/4 x 3 1/4
Intercoastal plates riveted to plating for length	—	—	—	—	—	—	—	—
<b>SIDE STRINGER</b> Angle Irons in the main Deck	3 3/4 x 3 1/4	3 3/4 x 3 1/4	3 3/4 x 3 1/4	3 3/4 x 3 1/4	3 3/4 x 3 1/4	3 3/4 x 3 1/4	3 3/4 x 3 1/4	3 3/4 x 3 1/4
Transoms, material. Knight-heads. Hawse Timbers.	Iron	Iron	Iron	Iron	Iron	Iron	Iron	Iron
Windlass <u>Iron Patent</u> Pall Bitt	—	—	—	—	—	—	—	—

	Inches in Ship.	16ths in Ship.	Inches required.	16ths required.
Flat Keel Plates, breadth and thickness	34	11	34	11
<b>PLATES</b> in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges of doubling at Bilge, or increased thickness, and length applied	—	9x10	—	9x10
fm up. part of Bilge to Ir. edge of Sh'rstrake	—	9x10	—	9x10
Main Sheerstrake, breadth and thickness of d'bling at Sh'rstrake, & length applied from Mn. to Up. or Spar Dk. Sh'rstrake.	36	12	36	12
Up. or Spar Dk Sh'rstrake, brdth & thickness	—	—	—	—
Butt Straps to outside plating, breadth & thickness	9 1/2 x 1 1/2	10 1/2 x 1 1/2	9 1/2 x 1 1/2	10 1/2 x 1 1/2
Lengths of Plating	14 1/2 x 1 1/2	16 1/2 x 1 1/2	14 1/2 x 1 1/2	16 1/2 x 1 1/2
Shifts of Plating, and Stringers	2	—	2	—
Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness	—	—	—	—
Angle Iron on ditto	—	—	—	—
Tie Plates fore and aft, outside Hatchways	—	—	—	—
Diagonal Tie Plates on Beams No. of Pairs	—	—	—	—
Planksheer material and scantling	—	—	—	—
Waterways do. do.	—	—	—	—
Flat of Upper Deck do. do.	—	—	—	—
How fastened to Beams	—	—	—	—
Stringer Plate on ends of Main or Middle Deck Beams breadth and thickness	30	10	30	10
Is the Stringer Plate attached to the outside plating?	yes	—	—	—
Angle Irons on ditto, No. One	5 x 3 1/2 x 9	5 x 3 1/2 x 9	5 x 3 1/2 x 9	5 x 3 1/2 x 9
Tie Plates, outside Hatchways	12	10	12	10
Diagonal Tie Plates on Beams, No. of pairs	5	12	10	12
Waterways materials and scantlings	—	—	—	—
Flat of Main Deck do. do.	—	—	—	—
How fastened to Beams	—	—	—	—
Stringer Plates on ends of Lower Deck, Hold or Orlop Beams	31	9	31	9
Is the Stringer Plate attached to the outside plating?	yes	—	—	—
Angle Irons on ditto, No. 2	4 x 4 x 0	4 x 4 x 0	4 x 4 x 0	4 x 4 x 0
Stringer or Tie Plates outside Hatchways	12	10	12	10
Flat of Lower Deck	—	—	—	—
Ceiling between Decks, thickness and material in hold	—	—	—	—
do. do. do.	—	—	—	—
Main piece of Rudder, diameter at head	2 1/2	8 1/2	2 1/2	8 1/2
do. at heel	5 1/2	—	5 1/2	—
Can the Rudder be unshipped afloat?	yes	—	—	—
Bulkheads No. One Thickness of	4 1/2	—	4 1/2	—
Height up	Main Deck	—	—	—
How secured to sides of ship	Double frames	—	—	—
Size of Vertical Angle Irons	3 x 3 x 1/4	—	—	—
and distance apart	30 ins.	—	—	—
Are the outside Plates doubled two spaces of Frames in length?	yes	—	—	—

The **FRAMES** extend in one length from Keel to Gunwale Riveted through plates with 1/4 in. Rivets, about 16 apart.  
 The **REVERSED ANGLE IRONS** on floors and frames extend across middle line to Main Deck on every and to frame 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 1/2 in. diameter, averaging 5 1/2 ins. from centre to centre.  
 Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets 1/2 in. diameter, averaging 3 1/2 ins. from centre to centre.  
 Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 1/2 in. diameter averaging 3 1/2 ins. from centre to centre.  
 Butts of Three Strakes at Bilge for half length, treble riveted with Butt Straps 1/4 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 1/2 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 5 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: Iron Gutter (Explain by Sketch, if necessary.)  
 Beams of the various Decks, how secured to the sides? Welded 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.? Iron  
 Manufacturer's name or trade mark, Angle Iron Coats, Plates Corsett  
 The above is a correct description.  
 Builder's Signature, Robt. Duncan & Co. Surveyor's Signature, Edw. R. Buchanan  
 Surveyor to Lloyd's Register of British and Foreign Shipping.



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 facing surfaces? *yes*  
Do any rivets break into or through the seams or butts of the plating? *very few* 22093 Jan

Masts, Bowsprit, Yards, &c., are *Iron* 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 *Fore Mast 8 1/2 dia 29 Main 8 1/2 dia 29 Mizzen 6 3/4 dia 25 Bowsprit 23 1/2 dia 29*  
*Fore & Main Masts & Bowsprit plates 1/2" all in three plates, edges double riveted, butt straps*  
*Mizzen Mast 1/2" outside 1/4" thicker than plates & treble riveted, plates*  
*doubled in way of wedging.*

NUMBER for EQUIPMENT		Fathoms.	Inches.	Test per Certificate.	Length & Size req'd per Rule.	Test req'd per Rule.	ANCHORS.	No.	Weight. Ex. Stock.	Test per Certificate.	Weight req'd per Rule.	Test req'd per Rule.
15-600		14-221										
No.	SAILS.	CABLES, &c.	134 1/2	1 1/4	55 8 x 7/8	1 1/2	Bowers	6898	30.1.11	28.10.14	30.0.0	28 1/2
	Fore Sails,	Chain	135 1/2					6896	30.0.4	28.14.14		
	Fore Top Sails,	<i>Ketherton Diving House</i>			<i>4th &amp; 10th October 1878</i>			6897	25.1.16	25.3.3.0	25.2.0	25 3/4
	Fore Topmast Stay Sails	<i>D. G. Lewis Superintendent</i>										
	Main Sails,	<i>Hampden</i>	90	15 1/4	15 20 x 23 20	15 1/6	<i>Stream</i>	8/10/78	6894	10.1.0	12.4.1.14	12.0.0
and		Hawser ...	90	1 1/2		9						
		Towlines ...	90	1 1/2		5 1/2						
		Warp ...	90	5 1/2								
		quality <i>good</i>										

Standing and Running Rigging *Wire & Hemp* sufficient in size and *good* in quality. She has *one* Life Boat and *4* others

The Windlass is *Harfield's Patent* 3 Capstans *D W* and Rudder and 2 Pumps *Efficient*

Engine Room Skylights.—How constructed?

How secured in ordinary weather?

What arrangements for deadlights in bad weather?

Coal Bunker Openings.—How constructed?

How are lids secured?

Height above deck?

Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *Ports & Scuppers*

Cargo Hatchways.—How formed? *Iron Comings*

State size Main Hatch *11'6" x 10'0"* Fore hatch *6'6" x 6'0"* Quarter hatch *6'6" x 6'0"*

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. *24*

Date *15th Jan 1878*

Order for Ordinary Survey No. *123*

Date *15th Jan 1878*

No. *123* in builder's yard.

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
- 2nd. On the plating during the process of riveting
- 3rd. When the beams were in and fastened, and before the decks were laid....
- 4th. When the ship was complete, and before the plating was finally coated or cemented..
- 5th. After the ship was launched and equipped

*Built under S.S. and Surveyed 1877.*  
*Nov 13. 16. 22 Dec 2. 10. 20. 27. 1878 Jan 5. 10. 15. 24*  
*Feb 2. 7. 13. 18. 25. March 5. 8. 12. 19 April 9. 16. 30 May*  
*15. June 5. July 9. 24. 31 August 2. 16. 20. 30*  
*Sept 2. 10. 16. October 1. 4. 9. 12. 15. 22. 25. 29th*

General Remarks (State quality of workmanship, &c.) *This vessel has been built in conformity with the Rules and Midship Section appended to Report on Sister Ship 807440. —*  
*"Lyttelton" which was submitted and approved by the Committee in letter dated 19th Jan 1878. —*  
*The workmanship and materials are of good quality*

*Fore & Main lower Yards 1/2 dia 1 1/2 plates 5 1/2*  
*20 lower Topsail 20 dia 1 1/4 — 4 to 2*  
*Crop Jack Yard 62 ft — 1 1/4 — 4 to 2*  
*In two plates edges single riveted, butts*  
*lapped and treble riveted plates doubled*  
*in way of string*

State if one, two, or three decked vessel, or if open, or running decked; and the lengths of poop, fore-castle, raised quarter-deck, and the length of double, or part double bottom.

How are the surfaces preserved from oxidation? Inside *Portland Cement to above Bulges* Outside *Red Lead Paint*

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

The amount of the Entry Fee ... £ 5 : 0 : 0 is received by me.

Special ... £ 52 : 18 : 0 30th Oct 1878

Certificate ... £ 0 : 0 : 0

(Travelling Expenses, if any, £ ...)

Committee's Minute 12th November, 1878

Character assigned *100 A*

*Edmund Bonchum*  
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