

3570 Survey held at Hull Date 19<sup>th</sup>  
 the Steamer "Ariel" Master E. L. Lutha  
 Tonnage Gross 377.43 Engine Room 85.81 Register 291.62 Built at Hull  
 when Built 1865 By whom built Wm. Hunter Iron Works & Co. Owners Leatham  
 Launched 28<sup>th</sup> July Port belonging to Hull Destined Voyage Baltic  
 Surveyed Afloat or in Dry Dock Special survey during building

Length 167 Feet. Inches. Extreme Breadth 23 Feet. Inches. Depth from top of Upper Deck 12 Feet. Inches. Beam to top of Floor 11 Feet. Inches. Power of Engines 45 Horse No.

Distance of Frames or Ribs from moulding edge to moulding edge, all fore and aft	Inches in Ship.		Inches required per Rule.		Stem, if bar iron, moulding and thickness	Inches. 16ths. required		Inches. 16ths. required
	Inches. In Ship.	Inches. In Ship.	Inches. required per Rule.	Inches. required per Rule.		Inches. In Ship.	16ths. required per Rule.	
Floors, Size of Angle Iron, and No. <u>at</u> bottom of Floor Plate	<u>3 1/2</u>	<u>2 1/2</u>	<u>5/16</u>	<u>3/4</u>	if plate iron, breadth and thickness	<u>6 1/2</u>	<u>2 1/4</u>	<u>6 1/2</u>
depth and thickness of Floor Plate at mid line	<u>15</u>	<u>x</u>	<u>7/16</u>	<u>15</u>	Stern-post, if bar iron, moulding and thickness	<u>8 1/2</u>	<u>3</u>	<u>6 1/2</u>
depth and thickness of Floor Plate at Bilge Keelson	<u>9</u>	<u>x</u>	<u>7/16</u>	<u>2</u>	if plate iron, breadth and thickness	<u>24</u>	<u>1/2</u>	<u>24</u>
Size of Reversed Angle Iron, and No. <u>at</u> top of Floor Plate	<u>3 1/2</u>	<u>2 1/2</u>	<u>5/16</u>	<u>2 1/2</u>	Garboard Plates, thickness..	<u>9/16</u>		<u>9/16</u>
Frames, Size of Angle Iron, single or double	<u>3 1/2</u>	<u>2 1/2</u>	<u>5/16</u>	<u>3/4</u>	From Garboard to upper part of Bilge	<u>9/16</u>		<u>9/16</u>
Reversed Iron, <u>X</u> to every frame	<u>3 1/2</u>	<u>2 1/2</u>	<u>5/16</u>	<u>2 1/2</u>	From upper part of Bilge to Sheerstrakes	<u>7/16</u>		<u>7/16</u>
Top of Bilge <u>to</u> every alternate frame	<u>3 1/2</u>	<u>3 1/2</u>	<u>5/16</u>	<u>2 1/2</u>	Sheerstrakes	<u>9/16</u>		<u>9/16</u>
Beams, Deck (No. <u>48</u> ) double Angle Iron or Bulb Iron with double Angle Iron on top	<u>2 1/2</u>	<u>2</u>	<u>4/16</u>	<u>2 1/4</u>	Breadth & thickness of Butt Straps to outside plating	<u>9 1/2</u>	<u>9/16</u>	<u>9 1/2</u>
depth & thickness of plate amidships	<u>6</u>	<u>x</u>	<u>9/16</u>	<u>5 1/4</u>	Planksheers			
double or single Angle Iron, on lower edge	-	-	-	-	Gunwale Plate or Stringer on ends of Up. Dk Beams	<u>4 1/4</u>	<u>9/16</u>	<u>2 1/4</u>
average space between	<u>42</u>	<u>ins</u>		<u>42</u>	Angle Iron on ditto	<u>3 1/2</u>	<u>3 1/2</u>	<u>9/16</u>
if wood (No. ) sided & moulded	-	-	-	-	Waterway <u>butts</u>	<u>3 1/2</u>	<u>2 1/2</u>	<u>9/16</u>
Hold, or Lower Deck (No. <u>12</u> ) double Angle Iron or Bulb Iron with double Angle Iron on top	<u>3 1/2</u>	<u>2 1/2</u>	<u>5/16</u>	<u>2 1/2</u>	Deck	<u>3</u>		<u>3</u>
depth & thickness of plate amidships	<u>6</u>	<u>x</u>	<u>9/16</u>	<u>5 3/4</u>	Ceiling in Hold	<u>2 1/2</u>		<u>2 1/2</u>
double or single Angle Iron, on lower edge	-	-	-	-	Ceiling betwixt Decks			
average space between	-	-	-	-	Beam <u>Clamps</u>	<u>9</u>	<u>7/16</u>	<u>8 1/2</u>
if wood (No. ) sided & moulded	-	-	-	-	Shelf			
Paddle, wood, sided and moulded or if Iron, size of Plate	-	-	-	-	Stringer Plates on ends of Hold or Lower Dk Beams	<u>18</u>	<u>7/16</u>	<u>18</u>
Engine	-	-	-	-	Ceiling between Decks			
Keelson, wood sided & moulded iron, size of plate, if box, give sketch & dimensions	<u>1 1/2</u>	<u>x</u>	<u>7/16</u>	<u>1 1/2</u>	Stringer or Tie Plates outside Hatchways	<u>9</u>	<u>7/16</u>	<u>8 1/2</u>
Double angle iron top & bottom	<u>3 1/2</u>	<u>3</u>	<u>7/16</u>	<u>3 1/2</u>	Deck Beam Clamps			
Double angle iron side	<u>3 1/2</u>	<u>3</u>	<u>7/16</u>	<u>3 1/2</u>	Shelf			
Number	<u>6</u>	<u>x</u>	<u>9/16</u>	<u>5 3/4</u>	Stringers in Hold			

Keelsons, material Iron or, if none, in what manner compensated for. By frames and plating  
 Right-heads Do Bulkheads, No. Four Thickness of 7/16 plates  
 Case Timbers Do are they free from defects? Do how secured to the sides of the ship both frames & broad beams  
 size of vertical angle iron and their distance apart 3 1/2 x 2 1/2 x 5/16 . 3 on

Frames or Ribs extend in one length from Keel to Gunwale rivetted through plates with (3/4 in.) rivets, about (6) apart.  
 reverse angle irons on the floors extend in one length across the middle line from top of bilge to Gunwale on alternate frames  
 on the frames " " " " from top of Bilge to Gunwale on alternate frames

Keelson, how are the various lengths of plates or angle irons connected? with the Butts of angles shifted & strapped & rivetted  
 Garboard, double or single rivetted to keel & at upper edge, with rivets (7/8 ins.) diameter averaging (3 1/2 in.) from centre to centre of rivet.  
 Edges from Garboards to upper part of bilge, worked carvel with a lining piece (1 in.) thick, or clencher, double or single rivetted; rivets (9/16 in.) diameter, averaging (3 1/4 ins.) from centre to centre of rivets.  
 Butts from Keel to turn of bilge, worked carvel with a lining piece (9/16) thick, double or single rivetted; rivets (3/4 in.) diameter, averaging (3 1/4 ins.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? Not in outer strake  
 Edges from bilge to planksheer, worked carvel with a lining piece (1 in.) thick, double or single rivetted; rivets (3/4 in.) diameter, averaging (3 in.) from centre to centre of rivets. Do the lining pieces lap over and rivet through the lands of the strake below? Clencher  
 Butts from bilge to planksheers, worked carvel with a lining piece (9/16) thick, double or single rivetted; rivets (3/4 in.) diameter averaging (3 1/4 ins.) from centre to centre of rivets. Breadth of laps in double rivetting (4 1/2) Breadth of laps in single rivetting (2 1/2)

Planksheer, how secured to the plating of the sides { Explain by sketch, } cutting waterway  
 Waterway " " planksheer and to the Beams { if necessary. }

Deck trussing Four pair 9x7/16 plates, fitted diagonally rivetted to Beams Stringers & tie plates  
 Deck Beams, how secured to the side? By welded knees rivetted to frames and angle irons to stringers & tie plates  
 Hold or Lower Deck Do  
 Paddle " " "

No. of breasthooks Four crutches — how are pointers compensated? By termination of stringers  
 What description of iron is used for the angle iron and plate iron in the vessel? Bolekov & Tanchan Builder's Signature  
Thomas Scott

Do the ... in without re ... any making good of deficiencies ...  
 ing pieces, or plate to plate, &c., conform well to each other? Yes and are the rivet holes  
 the outer plate? Yes  
 Are there any rivets which either break into or have been put through the seams or butts of the plating? Yes several in the Butts

Her Masts, Yards, &c., are in good condition, and sufficient in size and length.  
 She has SAILS. CABLES, &c. ANCHORS, and their weights.

N <sup>o</sup> .	SAILS	CABLES, &c.		ANCHORS, and their weights.			
		Fathoms.	Inches.	N <sup>o</sup> .	Weight		
Complete and and	Fore Sails,	Chain <u>tested to 22 1/4 tons</u>	210	1 1/8	Bower, .....	3	14
	Fore Top Sails,	Hempen Stream Cable .....	40	5/8	Stream, .....	1	5
	Fore Topmast Stay Sails,	Hawsers .....	20	5	Kedge, .....	2	2
	Main Sails,	Towlines .....	90	7			
	Main Top Sails,	Warp .....	120	4			1
		All of <u>good</u> quality.					

Her Standing and Running Rigging Wire & Hemp sufficient in size and good in quality.  
 She has One Life Long Boat and One other Boat  
 The present state of the Windlass is good Capstan good and Rudder good Pumps good

General Remarks, Statement and Date of Repairs, extent of corrosion (if any) both internally and externally, and condition of rivets

- DATES of Surveys held while building, as per Section 17.
- 1st. On the several parts of the frame, when in place, and before the plating was wrought Special Survey No 88
  - 2nd. On the plating during the progress of rivetting
  - 3rd. When the beams were in and fastened, and before the decks were laid First Survey 25<sup>th</sup> April 65
  - 4th. When the ship was complete, and before the plating was finally coated
  - 5th. After the ship was launched Last Survey 19<sup>th</sup> August 65

Tonnage Under Deck	346. 83	Modem anchors of steel
Breaks	30. 6	cut. 10" x 21 tested to 12" 12" Certificate date July
Gross	377. 43	10" 2" " " 12" 8" 3
Logan worn	85. 81	8" 0" 0 " " 10" 2" 2 " " "
Rigging	291. 62	Logan Lipton Proving House
		Logan David Logan

Is finished with a raised deck aft for protection of engine room the frames standing to Gunwale also transverse iron on alternate floor Beams, Stringers, tee & diagonal plates in accordance with rules outer plating do. by one stroke of plate standing height of main longitudinal rail & rivetted at edges and two angle irons on upper edge by one at stringer plate & one under rail - four butts on each side being single rivetted. Rivets 3/4" - 3/4" centres to Centre. Butts straps 5/16" wide

All in excess or in accordance with the rules except the butts opening in plating of raised deck - N.D.

In what manner are the surfaces preserved from oxidation? The flat inside with cement and the round with paint

I am of opinion this Vessel should be classed A 1  
 The amount of the Fee .....£ 5: - : is received by me, Mr Davidson  
 Special .....£ 18: 17: John Hill  
 Certificate (if required) .....£ - : - : -

Committee's Minute 25<sup>th</sup> August 1865  
 Character assigned A 1

*[Handwritten signatures]*



I concur in the above  
 24 Aug 65  
 Lloyd's Register Foundation