IRON SHIP.

No. 4319 Survey held at Dunbarton Date, First Survey 20th Feby Last Survey 18th October 1876

On the Sr Sr "Rotorua" Yard Number 191 Master Macfarlane

TONNAGE under Tonnage Deck	529.75	~~ONE, OR~~ TWO DECKED ~~Rule~~ THREE DECKED VESSEL. ~~SPAR, OR AWNING DECKED VESSEL~~		Built at	Dunbarton
Ditto of Third, ~~Spar~~ ~~or Awning Deck~~	379.16	**HALF BREADTH** (moulded)	Feet. 13.5	When built	1876 Launched 6th Septr
~~Total under Dk~~ ~~Ditto Poop~~ ~~Raised Qr. Dk.~~	908.91	**DEPTH** from upper part of Keel to top of Upper Deck Beams	22.0	By whom built	Wm Denny & Bros
Ditto of Houses on Deck	16.75	**GIRTH** of Half Midship Frame (as per Rule)	32.15	Owners	The Union S.S. Co Lim. Dunedin
~~Ditto of Forecastle~~		**1st NUMBER**	67.65	Port belonging to	Dunedin
Gross Tonnage	925.66	~~1st NUMBER, if a THREE DECKED VESSEL~~ ~~Deduct 7 feet~~		Destined Voyage	Dunb. New Zealand
Less Crew Space	53.02	**LENGTH**	223.75		~~If~~ Surveyed while Building, Afloat, ~~or~~ and in Dry Dock.
for fees	872.64	**2nd NUMBER**	15136		
Less Engine Room	296.21	**PROPORTIONS**—Breadths to Length	8.28		
Register Tonnage as cut on Beam	576.43	Depths to Length—Upper Deck to Keel	10.17		
		~~Main Deck ditto~~			

Official Number

PLANS CO.

LENGTH on deck as per Rule	Feet. 223	~~Inches~~ 75	**BREADTH**—Moulded	Feet. 27	~~Inches.~~ –	**DEPTH** top of Floors to Upper Deck Beams ~~Do. do. Main Deck Beams~~	Feet. 20	~~Inches.~~ 25	Power of Engines	Horse. ~~180~~ 172	No. of Decks with flat laid 3; No. of Tiers of Beams 3

Dimensions of Ship per Register, length, 226 breadth, 27.2 depth, 20.35 / 12.75

	Inches in Ship.			Inches per Rule.		
KEEL, depth and thickness	8 × 2 3/8			8 × 2 3/8		
STEM, moulding and thickness	7½ × 2 3/8			7½ × 2 3/8		
STERN-POST for Rudder do. do.	7½ × 5¼			7½ × 5¼		
for Propeller	7½ × 5¼			7½ × 5¼		
Distance of Frames from moulding edge to moulding edge, all fore and aft	23			23 (Class 100A)		
	Inches. In Ship.	**Inches. In Ship.**	**16ths. In Ship.**	**Inches required per Rule**	**Inches required per Rule**	**16ths required per Rule**
FRAMES, Angle Iron, for 3/5 length amidships	4	3	7	4	3	7
Do. for 1/5 at each end	4	3	6	4	3	6
REVERSED FRAMES, Angle Iron	3	3	6	3	3	6
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships	20½	–	8	20½	.	8
thickness at the ends of vessel			7	–	–	7
depth at ¾ the half-bdth. as per Rule	10¼			10¼		
height extended at the Bilges	41			41		
BEAMS, Upper, ~~Spar, or Awning~~ **Deck** ~~Single or d'ble Ang. Iron~~, Plate ~~or Tee~~ Bulb Iron	6½	.	6	6½	.	6
~~Single or~~ double Angle Iron on Upper edge	2½	2½	6	2½	2½	6
Average space	46			46		
BEAMS, ~~Main or~~ **Middle Deck** ~~Single or d'ble Ang. Iron,~~ Plate ~~or Tee~~ Bulb Iron	6½	–	6	6½	.	6
~~Single, or~~ double Angle Iron, on Upper Edge	2½	2½	6	2½	2½	6
Average space	46			46		
BEAMS, Lower Deck, ~~Hold or Orlop~~ Single ~~or d'ble~~ Ang. Iron, ~~Plate or Tee Bulb Iron~~	6	3	8	–	–	–
~~Single or double Angle Iron on Upper Edge~~						
Average space	46			–	–	–
KEELSONS Centre line, single ~~or double~~ plate, ~~box, or Intercostal, Plated~~	15	.	11	15	.	11
" Rider Plate	10¾	.	11	10¾	.	11
" ~~Bulb Plate to Intercostal Keelson~~ Foundation plate	18	.	7	–	–	–
" Angle Irons	5	3½	8	5*	3½	8
" Double Angle Iron Side Keelson	5	3½	8	5	3½	8
" ~~Side Intercostal~~ Plate Wash plates	–	–	6	–	–	6
" do. Angle Irons	5	3½	8	5	3½	8
" ~~Attached to outside plating with angle iron~~ Bulb plate 156 feet	6½	.	6	–	–	–
BILGE Angle Irons	5	3½	8	5	3½	8
" do. Bulb Iron 170 feet	6½	.	6	–	–	–
" ~~do. Intercostal plates riveted to plating for length~~						
BILGE STRINGER Angle Irons see lower deck stringer				5	3½	8
~~Intercostal plates riveted to plating for length.~~						
~~**SIDE STRINGER** Angle Irons~~						

	Inches. In Ship.	16ths. In Ship.	Inches. required	16ths required
~~Flat Keel Plates, breadth and thickness~~				
PLATES in Garboard Strakes, breadth and thick~~ness~~	34	11	34	11
from Garboard to ~~upper part of Bilges of doubling at Bilge, or increased thickness, and length applied~~	inside strakes	9	–	9
	outside strakes	10		10
~~fm up. part of Bilge to~~ lr. edge of Sh'rstrake				
Main Sheerstrake, breadth and thickness	43¾	11	36	11
of d'bling at Sh'rstrake, & length applied	14	11	3/5 length	
~~from Mn. to Upr. or Spar Dk. Sh'rstrake.~~				
~~Up. or Spar Dk Sh'rstrake, brdth & thickns~~				
Butt Straps to outside plating, breadth & thickness	16¼ 9¼	12. 9	16¼ 9¼	12 9
Lengths of Plating 6 frames			–	
Shifts of Plating, and Stringers 2 frames			–	
Gunwale Plate on ends of ~~Awning, Spar, or~~ Upper Deck Beams, breadth and thickness	50	10	50	10
Angle Iron on ditto	4.4	8	as approved	
Tie Plates fore and aft, outside Hatchways	12	9	12	9
~~Diagonal Tie Plates on Beams No. of Pairs,~~ Iron deck amidships for 103 feet	–	6	–	–
Planksheer material and scantling Teak	12	4½	–	–
Waterways do. do.				
Flat of Upper Deck do. do. Y.P.	3½		3½	
How fastened to Beams Nutted bolts				
Stringer Plate on ends of ~~Main or~~ Middle Deck Beams, breadth and thickness	30	8	30	8
Is the Stringer Plate attached to the outside plating? Yes				
Angle Irons on ditto, No. 2	3½ 3½	.8	3½ 3½	.8
Tie Plates, outside Hatchways	12	8	12	8
~~Diagonal Tie Plates on Beams, No. of pairs~~				
Waterways materials and scantlings Pine	8	5	–	
Flat of Middle Deck do. do. 7"	3½		–	
How fastened to Beams Nutted bolts				
Stringer Plates on ends of Lower Deck, ~~Hold or Orlop~~ Beams	22½	8	as approved	–
Is the Stringer Plate attached to the outside plating? Yes			–	
Angle Irons on ditto No. 2	3½. 3½	.8	–	–
Stringer or Tie Plates, outside Hatchways	9	8	–	–
Flat of Lower Deck P. Pine	3		–	
Ceiling betwixt Decks, thickness and material	2½	PP	2½	
in hold do. do.			2½	
Main piece of Rudder, diameter at head	5¾		5¾	
do. at heel	3		3	
Can the Rudder be unshipped afloat? Yes				
Bulkheads No. 4 Thickness of 6/16				6

Height up Upper deck

How secured to sides of ship fore & aft & single frames the others double

Size of Vertical Angle Irons 3. 3. 6 and distance apart 30 ins.

Are the outside Plates doubled two spaces of Frames in length? Yes

Transoms, material. Knight-heads. Hawse Timbers. Iron

Windlass Iron patent Pall Bitt ~

The **FRAMES** extend in one length from Keel to upper deck stringer Riveted through plates with 7/8 3/4 in. Rivets, about 6 apart.

The **REVERSED ANGLE IRONS** on floors and frames extend from middle line to abov Middle Deck and to Upper Deck Str 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 1/8 in. diameter, averaging 5½ ins. from centre to centre.

Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets 7/8 3/4 in. diameter, averaging 3½ 3¼ ins. from centre to centre.

Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 7/8 3/4 in. diameter averaging 3½ 3¼ ins. from centre to centre.

Butts of Three 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 ¾ in. diameter, averaging 3¼ ins. from cr. to cr.

Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 7/8 3/4 in. diameter, averaging 3¾ 3¼ 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 5¼ 6½ ~~Breadth of laps of plating in single riveting~~

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double ~~or single~~ Riveted? Part treble the rest double

Waterway, how secured to Beams Nutted bolts (Explain by Sketch, if necessary.)

Beams of the various Decks, how secured to the sides? Forged bracket knees No. of Breasthooks, five Crutches, deep floors

What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Mossend Consett

Manufacturer's name or trade mark, Mossend Consett

The above is a correct description.

Builder's Signature, Wm Denny & Bros

Surveyor's Signature, [signature]

(22/5/73).

IRON468-0405

Workmanship. — Are the butts of plating planed or otherwise fitted? *Planed*

Do the edges of the carvel work and of the butts fay close together throughout their length without requiring any making good of deficiencies? *They do*

Are the fillings between the ribs and plates solid single pieces? *They are*

Do the holes for riveting plate to frames, butt straps, or plate to plate, &c., conform well to each other? *They do*

Are the rivet holes well and sufficiently countersunk in the plate and punched from the faying surfaces? *They are*

Do any rivets break into or through the seams or butts of the plating? *A few at corners of butts*

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

Two pole masts of Oregon pine. — *17171 Iron*

NUMBER for EQUIPMENT *15136*

Nº.	SAILS.	CABLES, &c.	Fathoms.	Inches.	Test per Certificate.	Lngh. & Size req'd pr Rule	Test req'd per Rule.	ANCHORS, &c. (*Rodgers'*)	Nº.	Weight. Ex. Stock.	Test per Certificate.	W'ght req'd per Rule.	Test req'd per Rule.
One suit and spare	Fore Sails,		120	1 7/16	37½. 55 5/8	240 1 7/16	37½ 55 5/8	*L.P.H.K.*	3265	18.1.2	19.8.3	18	19
	Fore Top Sails,	Chain	120	"	" "			Bowers	3253	18.0.20	19.4.1	18	19
	Fore Topmast Stay Sails	(State Machine where Tested, Date, & name of Superintendent.) *L.P.H.T. Nos 2498.9 dated 31st July & 3rd Augt 76 certificates signed Samuel Tregenna*						(State Machine where Tested, Date, and name of Superintendent.) *Certificates dated 8th & 12th August 1876 signed G. C. Lewis*	3254	13.1.9	16.16.2	15¼	16 14/20
	Main Sails,	Hmpn Strm Cbl	90	10		90 11/16 or							
	Main Top Sails,	Hawser	"	9		" 10		Stream		8.0.16	–	8	
	and —	Towlines	"	6		" 9				4.0.10	–	4¾	
		Warp	"	5½		" 5½		Kedges		2.0.6	–	2¼	
		quality *Good*		4									

Standing and Running Rigging *Wire & hemp* sufficient in size and *good* in quality. She has *2 life* Boat and *2 others*.

The Windlass is *Iron Patent* Capstan *4 good* and Rudder *good* Pumps *good*

Engine Room Skylights.—How constructed? *on top of deck house* How secured in ordinary weather? *by bolts*

What arrangements for deadlights in bad weather? *Gratings & tarpaulins*

Coal Bunker Openings.—How constructed? *Flush upper deck* How are lids secured? *by plates* Height above deck? *flush*

Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? *Open rail and bulwarks above the sheerstrake*

Cargo Hatchways.—How formed? *Iron coamings*

State size **Main Hatch** *11' 6" × 10'* Forehatch *7' 9 × 6* Quarterhatch *10' × 10'*

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. *1134*

Date *Jany 20/76*

Order for Ordinary Survey No. —

Date —

No. *191* 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 *1876. Feb 20. 27. Apl 6. 13. 17. 20. 27. May 1. 4. 8. 11. 15.*

2nd. On the plating during the process of riveting *18. 22. 26. June 1. 5. 12. 15. 19. 22. 25. 29. July 4. 6. 11. 13.*

3rd. When the beams were in and fastened, and before the decks were laid.... *24. 27. Aug 1. 4. 11. 14. 21. 24. 30. Sept 5. 12. 19. 26. Oct 3. 10. 1876*

4th. When the ship was complete, and before the plating was finally coated or cemented..

5th. After the ship was launched and equipped

General Remarks, (State quality of workmanship &c.)

The workmanship is good. She is built in accordance with the accompanying approved midship section and sheer tracing also strengthened in the range of the engine and boiler spaces as shown in the plans appended.

She is a ~~State if one, two or~~ three decked vessel, ~~or if spar or awning decked, and lengths of poop, forecastle or raised quarter deck, or of double or part double bottom.~~

How are the surfaces preserved from oxidation? Inside *Cement and paint* Outside *Paint*

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

The amount of the Entry Fee ... ...£ *5 : " : "* is received by me, *W. S.*

Oct 18th / 76 Special ... ...£ *45 : 9 :* *Octr 16th* 187*6*

Certificate ... *Gratis*

(Travelling Expenses) (if any) £ *6. 6. 0*

W. S. Mumford

This vessel appears eligible to be classed as recommended ✠ 100 A 1. 3 Dks

19/10/76

Committee's Minute *20th October* 187*6*

Character assigned *✠ 100 A 1*

A D C B

T. B. W. Lloyd's M.I.