

Steel IRON SHIP. 252/22

No. 500 Survey held at Dunbarton Date, First Survey 10th April Last Survey 16th Dec
 On the Screw Steamer 'Te Anau' Master Michael Carey

TONNAGE under Tonnage Deck	<u>1527.00</u>	ONE, OR TWO DECKED, THREE DECKED VESSEL.		Built at <u>Dunbarton</u>
Ditto of <u>Third, Span</u>		SPAR, OR AWNING DECKED VESSEL.		When built <u>1879</u> Launched <u>3rd Jan</u>
Ditto of <u>Deck on</u>		HALF BREADTH (moulded)	Feet.	By whom built <u>Wm Denny & Bros</u>
Ditto of <u>Houses on Deck</u>	<u>60.00</u>	DEPTH from upper part of Keel to top of Upper Deck Beams	<u>26.0</u>	Owners <u>Union S.S. Co of New Zealand</u>
Ditto of <u>Forecastle</u>	<u>56.42</u>	GIRTH of Half Midship Fram (as per Rule)	<u>39.4</u>	Port belonging to <u>Dunedin</u>
Gross Tonnage	<u>1652.22</u>	1st NUMBER	<u>82.4</u>	Destined Voyage <u>Dun. Australia & New Z</u>
Less Crew Space	<u>95.09</u>	1st NUMBER, THREE-DECKED VESSEL	<u>7</u>	Surveyed while Building, Afloat, or in Dry Dock.
for fees	<u>1337.73</u>	LENGTH	<u>260.5</u>	
Less Engine Room	<u>522.71</u>	2nd NUMBER	<u>20.245</u>	
Register Tonnage as out on Beam	<u>1020.42</u>	PROPORTIONS—Breadths to Length	<u>7.09</u>	
		Depths to Length—Upper Deck to Keel	<u>10.32</u>	
		Main Deck ditto	<u>14.91</u>	

PLANS CASE

LENGTH on deck as per Rule ... 260.5 Breadth Moulded ... 34 DEPTH top of Floors to Upper Deck Beams ... 26.0 Do. do. Main Deck Beams ... 14.66 Power of Engines ... 200 Horse. N^o. of Decks with flat laid 2 complete N^o. of Tiers of Beams 2 complete

Dimensions of Ship per Register, length	Inches in Ship.		Inches per Rule.		Flat Keel Plates, breadth and thickness	Inches in Ship.	16ths in Ship.	Inches per Rule.	16ths per Rule.
	Inches.	16ths.	Inches.	16ths.					
KEEL, depth and thickness					36	14	36	14	36
STEM, moulding and thickness. (Steel)	9 x 2 5/8		9 x 2 1/2		PLATES in Garboard Strakes, breadth and thickness from Garboard to upper part of Bilges	30	19	36	19
STERN-POST for Rudder do. do. (Iron)	9 1/2 x 5 3/4		9 x 5		of doubling at Bilge, or increased thickness, and length applied		16	32	13
" " for Propeller	9 1/2 x 5 1/2		"		fm upper part of Bilge to Ir. edge of Sh'rstrake.		17	32	17
Distance of Frames from moulding edge to moulding edge, all fore and aft	24		(Class 100A)		Main Sheerstrake, breadth and thickness of d'bling at Sh'rstrake, & length applied from Mn. to Upr. or Spar Dk. Sh'rstrake.	40	21	40	21
FRAMES, Angle Iron, for 3/4 length amidships	5	3	5	3	Upper Spar Dk Sh'rstrake, brth & thickness	13	10	16	10
Do. for 1/2 at each end	5	3	5	3	Butt Straps to outside plating, breadth & thickness	16	10	16	10
REVERSED FRAMES, Angle Iron	3	3	3	3	Lengths of Plating	50	15	50	15
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships					Shifts of Plating, and Stringers	50	15	50	15
" thickness at the ends of vessel					Gunwale Plate on ends of <u>Awning, Spar, or Upper Deck Beams</u> , breadth and thickness	50	15	50	15
" depth at 3/4 the half-bdth. as per Rule					Angle Iron on ditto	4.4	7	4.4	7
" height extended at the Bilges					Tie Plates fore and aft, outside Hatchways	14	8	14	8
BEAMS, Upper, Spar, or Awning Deck	7	3	7	3	Diagonal Tie Plates on Beams No. of Pairs				
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	3	3	3	3	Planksheer material and scantling				
Single or double Angle Iron on Upper edge	40		40		Waterways do. do.				
Average space					Flat of Upper Deck do. do.	3 1/2		3 1/2	
BEAMS, Main, or Middle Deck	8	3	8	3	How fastened to Beams				
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	3	3	3	3	Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness	50	2	50	2
Single or double Angle Iron on Upper Edge	40		40		Is the Stringer Plate attached to the outside plating?	Yes			
Average space					Angle Iron on ditto, No. 2	4.4	7	4.4	7
BEAMS, Lower Deck	7	3	7	3	Tie Plates, outside Hatchways	14	8	14	8
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron	3	3	3	3	Diagonal Tie Plates on Beams, No. of pairs				
Single or double Angle Iron on Upper Edge	40		40		Waterways materials and scantlings				
Average space					Flat of Middle Deck do. do.	3 1/2		3 1/2	
KEELSONS Centre line, single or double plate, box, or Intercoastal, Plates	39	2	39	2	How fastened to Beams				
" Rider Plate	36	7	36	7	Stringer Plates on ends of Lower Deck, Holders	35	15	35	15
" Bulb Plate to Intercoastal Keelson	3 1/2	3	3 1/2	3	Orlop Beams before midships				
" Angle Irons	3 1/2	4	3 1/2	4	Is the Stringer Plate attached to the outside plating?	Yes			
" Double Angle Iron Side Keelson	3 1/2	3	3 1/2	3	Angle Iron on ditto, No. 2	4.4	7	4.4	7
" Side Intercoastal Plates 2 each side	3 1/2	3	3 1/2	3	Stringer or Tie Plates, outside Hatchways	14	8	14	8
" do. Angle Irons	3 1/2	3	3 1/2	3	Flat of Lower Deck				
" Attached to outside plating with angle	3 1/2	3	3 1/2	3	Ceiling betwixt Decks, thickness and material				
BILGE Angle Iron	3 1/2	3	3 1/2	3	" in hold do. do.				
" do. Bulb Iron	3 1/2	3	3 1/2	3	Main piece of Rudder, diameter at head	6 1/2		6 1/2	
" do. Intercoastal plates riveted to plating for double length	6		6		do. at heel	3 1/2		3 1/2	
BILGE STRINGER Angle Iron	5 1/2	4	5 1/2	4	Can the Rudder be unshipped afloat?	Yes			
Intercoastal plates riveted to plating for forward portion of length. (See Section)	3	3	3	3	Bulkheads No. 4 Thickness of				
SIDE STRINGER Angle Iron	12	6	12	6	" Height up				
Transoms, material. Knight-heads. Hawse Timbers.	Steel				" How secured to sides of ship	Double frames fore and aft single frames between			
Windlass	Steam Patent				" Size of Vertical Angle	3 x 3 x 1/2 and distance apart 30 ins.			
	Steel				" Are the outside Plates doubled two spaces of Frames in length?	Yes			

The FRAMES extend in one length from bilge to bilge and to deck stringer Riveted through plates with 1/2" Rivets, about 6 apart.
 The REVERSED ANGLE IRONS on floors and frames extend from middle line to margin plate hence also to upper deck 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 4 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 ins. from centre to centre.
 Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets 3/4 in. diameter averaging 3 ins. from centre to centre.
 Butts of 3 Strakes at Bilge for 1/2 length, treble riveted with Butt Straps 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 ins. from cr. to cr.
 Butts from Bilge to Main Sheerstrake, worked carvel, double riveted; with rivets 3/4 in. diameter, averaging 3 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 1/2 length amidships. Butts of Upper or Spar Sheerstrake, treble riveted length amidships.
 Butts of Main Stringer Plate, treble riveted for 1/2 length amidships. Butts of Upper or Spar Stringer Plate, treble riveted for 1/2 length.
 Breadth of laps of plating in double riveting 6.5 Breadth of laps of plating in single riveting
 Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted? Double treble the rest double riveted
 Waterway, how secured to Beams Gutter Waterways (Explain by Sketch, if necessary.)
 Beams of the various Decks, how secured to the sides? Faced bracket knees No. of Breasthooks, 4 Crutches, 4
 What description of Iron is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Steel Co of Scotland
 Manufacturer's name or trade mark, Steel Co of Scotland, Halliday. Some beams rolled at Rosendean near that brand
 The above is a correct description.
 Builder's Signature, Wm Denny & Bros Surveyor's Signature, Wm Murray
 Surveyor to Lloyd's Register of British and Foreign Shipping

IRON 489-0287

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

25242 Iron

Masts, Bowsprit, Yards, &c., are now 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
Foremast 80' 3" x 24 1/2" x 6 1/2" Steel 3 plates in section. Butts triple riveted edges double riveted
Mainmast 75' 9" x 23" x 5 1/4" and as appeared per Secretary's letter dated 25.2.79. for the
S.S. Rotomahana Glasgow report No 4911.

NUMBER for EQUIPMENT <u>24336</u>		Fathoms.	Inches.	Test per Certificate.	Length & Size req'd per Rule.	Test req'd per Rule.	ANCHORS.	N ^o .	Weight. Ex. Stock.	Test per Certificate	W'ght req'd per Rule.	Test req'd per Rule.		
N ^o . SAILS. Fore Sails, Fore Top Sails, Fore Topmast Stay Sails Main Sails, Main Top Sails, and	CABLES, &c. Chain D'Glen's Hawser ... Towlines ... Warp ... quality <u>good</u>	30	1 1/16	82.15.0 59.2.2 6.8.79	270 1 1/16	82 1/2 59 8	LDHN Bowers	8570	32.0.2	50.4.1.14 20.8.79	32	30 1/2		
		105	1 1/16	LDHN No 4913				LDHN Certified	8500	31.3.25	50.2.2 6.0.79			
		135	1 1/16	LDHN No 4976	19.9.79			LDHN Certified	8500	31.3.25	50.2.2 6.0.79			
		270	1 1/16	LDHN No 4907				LDHN Certified	8473	27.1.20 26.15.0	27.1.0 12.2.79	27.1.0	26 1/2	
		75	1 1/16	LDHN No 4907		75 1 1/16	34 1/2 22 1/4	Stream	8703	10.1.16 9.2.19	12.8.14.79 12.2.79	10 1/2	12 1/2	
		90	1 1/16	LDHN No 4939	23.0.79	90 1 1/16		Stream	8705	5.1.24	7.16.1.0	5 1/4	7 1/2	
								Kedges	8704	2.2.10	5.3.0.0	2 1/2	5	

Standing and Running Rigging Wire & Hemp sufficient in size and good in quality. She has 6 Long Boats and 3 heavy life boats.

The Windlass is Iron Steam Capstan Iron and Rudder good Pumps good

Engine Room Skylights.—How constructed? on top of engine casing How secured in ordinary weather? by bolts

What arrangements for deadlights in bad weather? gates & stopwinds

Coal Bunker Openings.—How constructed? the upper deck How are lids secured? by lockings Height above deck? flush

Scuppers, &c.—What arrangements for clearing upper deck of water, in case of shipping a sea? 7 scuppers & water ports and

Cargo Hatchways.—How formed? iron coverings

State size Main Hatch 10' x 11' Forehatch 12' x 10' 6" Quarterhatch —

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. 1490 Date March 14/79

Order for Ordinary Survey No. — Date —

No. 226 in builder's yard.

DATE	DESCRIPTION
1st.	On the several parts of the frame, when in place, and before the plating was wrought <u>Apr 10. 17. 21. 24. 20. May 1. 5. 8. 12. 18. 19. 26. 29</u>
2nd.	On the plating during the process of riveting <u>Jun 2. 5. 9. 12. 16. 18. 19. 23. 26. 30. Jul 3. 7. 20. 31</u>
3rd.	When the beams were in and fastened, and before the decks were laid... <u>Aug 4. 7. 11. 13. 10. 24. 25. 20. Sep 2. 4. 11. 18. 10. 22. 25. 29</u>
4th.	When the ship was complete, and before the plating was finally coated or cemented... <u>Oct 2. 6. 13. 16. 20. 27. 30. Nov 3. 6. 10. 12. 20. 24. 27</u>
5th.	After the ship was launched and equipped <u>Dec 1. 4. 1879</u>

General Remarks (State quality of workmanship, &c.) The Workmanship is good, she is built of steel in accordance with the approved midships section and plans appended, she is built with a double bottom for the length of 200 feet divided into 3 compartments with 1 frame space for well at the after end of each compartment except the after one, where there are 12 spaces. These compartments were tested separately and as per rule before the vessel was launched. She is fitted with 4 keels for the length of 70 feet made in a V form and fastened with iron top bolts with nuts inside the keel. She has 2 bulkheads in tween decks amidships and 3 web frames on each side in the range of the engine and boiler spaces.

The iron used in her construction is comprised in: the strops and liners pillars, hatch coverings coal bunkers top of waterballast compartments under engines, shaft-tunnel deck houses and coamings also the propeller frame — stem and rudder fittings and the rivets for securing the bulkheads. Part of the steel was tested at the Glasgow public machine the rest with the temper tests at the works and machine in the Dundee Yard and the circulars Nos 392 and 414. complied with as far as practicable.

State if one, two, or three decked vessel, or if open, or covering decked; and the lengths of poop, fore-castle, or raised quarter deck, and the length 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 Steel 3 Deck rule Double beam 20ft

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

Special ... £ 63 : 18 : 6 December 1879

Certificate ... —

Committee's Minute 12th December, 1879.

Character assigned 100 A-1 Steel

Lloyd's Register 1879 573W 200 lot 20ft

Surveyor to Lloyd's Register of British and Foreign Shipping.
 This vessel has been built in accordance with the approved drawings and appears eligible to be classed as recommended viz: —
100 A-1 "Steel" 3 Deck rule Double bottom 20ft