

# IRON OR STEEL SHIP.

(Received at London Office, 18 JUNE 1890)

214

214

No. 91 Survey held at Middlesbrough Date, First Survey October 8<sup>th</sup> 1889 Last Survey June 1890

On the Steel Screw Steamer **ELISA CERANA**

Port of Middlesbrough Rig Schooner 2 pole mast Master M. Nab

TONNAGE under Tonnage Deck 321.76  
 Do. between Tonnage Dk. and 3rd, 4th, Spar or Awning Dk.  
 Total under Upper Dk.  
 Do. of Poop  
 Do. of Raised Qr. Dk. or Break  
 Do. of Bridge House  
 Do. of Houses on Deck 136.88  
 Do. of excess of Hatchways 1.56  
 Do. of Forecastle  
 Gross Tonnage 460.20  
 Less Crew Space 27.59  
 Less Engine Room Register Tonnage as out on Beam 147.26  
285.35

ONE, ~~OFFERS DECKED~~, **THREE DECKED VESSEL,**  
~~SPAR- OR AWNING DECKED VESSEL.~~  
 Half Breadth (moulded) .. .. . Feet.  
 Depth from upper part of Keel to top of Upper Deck Beams  
 Girth of Half Midship Frame (as per Rule) .. .. .  
 1st Number .. .. .  
 1st Number, if a 3-Decked Vessel .. deduct 7 feet  
 Length .. .. .  
 2nd Number .. .. .  
 Proportions— Breadths to Length .. .. .  
 Depths to Length— Upper Deck to Keel .. .. .  
 Main Deck ditto .. .. .

Year of appointment (1) As master in service of owner of present vessel—18 .. .. .  
 (2) As master of this vessel .. .. . 18 .. .. .  
 Built at Middlesbrough  
 When built 1889-90 Launched Feb'y 4<sup>th</sup> 90  
 By whom built W. Harkness & Son  
 Owners A. Shanks & Son  
 Managers  
 (If desired to be entered in Reg. Book.)  
 Residence Arbroath  
 Port belonging to Arbroath  
 Destined Voyage River Plate  
 Surveyed while Building, Afloat, or in Dry Dock, on slipway

LENGTH on deck as per Rule 189.0 Feet. Inches. BREADTH—Moulded... 28.6 Feet. Inches. DEPTH top of Floors to Upper Deck Beams .. .. . Feet. Inches. 8.1 Do. do. Main Deck Beams .. .. .  
 Dimensions of Ship per Register, length, 190.5 breadth, 28.6 depth, 8.2 Moulded depth 8.6 Horse. 120 No. of Decks with flat laid 1 No. of Tiers of Beams 1

	Inches in Ship.	Inches per Rule.		Inches in Ship.	Inches per Rule.
KEEL, depth and thickness .. .. .	<u>6 x 12</u>	<u>6 x 12</u>	Flat Keel Plates, breadth and thickness .. .. .	<u>30</u>	<u>10</u>
STEM, moulding and thickness... .. .	<u>6 x 12</u>	<u>6 x 12</u>	PLATES in Garboard Strakes, breadth & thickness .. .. .	<u>8</u>	<u>8</u>
STERN-POST for Rudder do. do. .. .. .	<u>21</u>	<u>21</u>	From Garboard to upper part of Bilges... .. .	<u>6</u>	<u>6</u>
" " for Propeller .. .. .	<u>3 2 5</u>	<u>3 2 5</u>	Of d'bling at Bilge, or increased thickness, and length applied .. .. .	<u>30</u>	<u>10</u>
Distance of Frames from moulding edge to moulding edge, all fore and aft .. .. .	<u>22 22 5</u>	<u>22 22 5</u>	From up. prt of Bilge to lr. edge of Sh'rstrake... .. .	<u>30</u>	<u>10</u>
FRAMES, Angle Iron, for length amidships .. .. .	<u>12</u>	<u>6</u>	Main Sheerstrake, breadth and thickness.....	<u>48</u>	<u>8</u>
Do. for 1/2 at each end .. .. .	<u>10</u>	<u>6</u>	Of d'bling at Sh'stk. & lng. applied .. .. .	<u>48</u>	<u>8</u>
REVERSED FRAMES, Angle Iron .. .. .	<u>6 3 7/16</u>	<u>6 3 7/16</u>	From Min. to Up. or Spar Dk. Sh'rstrake... .. .	<u>48</u>	<u>8</u>
FLOORS, depth and thickness of Floor Plate at mid line for half length amidships .. .. .	<u>42</u>	<u>42</u>	Up. or Spar Dk. Sh'rstrake, breadth & thickness .. .. .	<u>48</u>	<u>8</u>
" thickness at the ends of vessel .. .. .	<u>12</u>	<u>7</u>	Butt Straps to outside plating, breadth & thickness .. .. .	<u>48</u>	<u>8</u>
" depth at 3/4 the half-bdth. as per Rule .. .. .	<u>6 1/2</u>	<u>6 1/2</u>	Lengths of Plating <u>7 spaces of frames</u> .. .. .	<u>48</u>	<u>8</u>
" height extended at the Bilges... .. .	<u>3 3 6</u>	<u>3 3 6</u>	Shifts of Plating, and Stringers .. .. .	<u>48</u>	<u>8</u>
BEAMS, Upper, Spar, or Awning Deck Single or d'ble Ang. Iron, Plate or Tee Bulb Iron .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Gunwale Plate on ends of Awning, Spar, or Upper Deck Beams, breadth and thickness... .. .	<u>48</u>	<u>8</u>
Single or double Angle Iron on Upper edge .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Angle Iron on ditto .. .. .	<u>48</u>	<u>8</u>
Average space... .. .	<u>3 3 6</u>	<u>3 3 6</u>	The Plates fore and aft, outside Hatchways .. .. .	<u>48</u>	<u>8</u>
BEAMS, Main, or Middle Deck .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Diagonal Tie Plates on Beams No. of Pairs .. .. .	<u>48</u>	<u>8</u>
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Flat of Up., Spar, or Awning Dk. .. .. .	<u>48</u>	<u>8</u>
Single, or double Angle Iron on Upper Edge .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	How fastened to Beams .. .. .	<u>48</u>	<u>8</u>
Average space... .. .	<u>3 3 6</u>	<u>3 3 6</u>	Stringer Plate on ends of Main or Middle Deck Beams, breadth and thickness .. .. .	<u>48</u>	<u>8</u>
BEAMS, Hold, or Orlop .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Is the Stringer Plate attached to the outside plating? .. .. .	<u>48</u>	<u>8</u>
Single or d'ble Ang. Iron, Plate or Tee Bulb Iron .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Angle Irons on ditto, No. 1 .. .. .	<u>48</u>	<u>8</u>
Single or double Angle Iron on Upper Edge .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Tie Plates, outside Hatchways .. .. .	<u>48</u>	<u>8</u>
Average space... .. .	<u>3 3 6</u>	<u>3 3 6</u>	Diagonal Tie Plates on Beams, No. of pairs .. .. .	<u>48</u>	<u>8</u>
KEELSONS Centre line, single or double plate, box, or Intercostal, Plates .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Flat of Middle Deck* do. do. .. .. .	<u>48</u>	<u>8</u>
" Rider Plate .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	How fastened to Beams .. .. .	<u>48</u>	<u>8</u>
" Bulb Plate to Intercostal Keelson .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Stringer Plates on ends of Lower Deck, Hold or Orlop Beams .. .. .	<u>48</u>	<u>8</u>
" Angle Irons .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Is the Stringer Plate attached to the outside plating? .. .. .	<u>48</u>	<u>8</u>
" Double Angle Iron Side Keelson .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Angle Irons on ditto, No. .. .. .	<u>48</u>	<u>8</u>
" Side Intercostal Plate .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Stringer or Tie Plates, outside Hatchways .. .. .	<u>48</u>	<u>8</u>
" do. Angle Irons .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Flat of Lower Deck* .. .. .	<u>48</u>	<u>8</u>
" Attached to outside plating with angle iron .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Ceiling betwixt Decks, thickness and material .. .. .	<u>48</u>	<u>8</u>
BILGE Angle Irons .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	" in hold do. do. .. .. .	<u>48</u>	<u>8</u>
" do. Bulb Iron .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Main piece of Rudder, diameter at head .. .. .	<u>48</u>	<u>8</u>
" do. Intercostal plates riveted to plating for length .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	do. at heel .. .. .	<u>48</u>	<u>8</u>
BILGE STRINGER Angle Irons .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Can the Rudder be unshipped afloat? .. .. .	<u>48</u>	<u>8</u>
Intercostal plates riveted to plating for length .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	Bulkheads No. 3* No. per Rule .. .. .	<u>48</u>	<u>8</u>
SIDE STRINGER Angle Irons .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	" Thickness of .. .. .	<u>48</u>	<u>8</u>
The FRAMES extend in one length from <u>Centre line</u> to <u>gunwale</u> Riveted through plates with <u>3/4</u> in. Rivets, about <u>5/4</u> apart.	<u>3 3 6</u>	<u>3 3 6</u>	" Height up <u>Main dk.</u> .. .. .	<u>48</u>	<u>8</u>
The REVERSED ANGLE IRONS on floors and frames extend <u>across</u> middle line to <u>side stringer</u> and to <u>alternately</u>	<u>3 3 6</u>	<u>3 3 6</u>	" How secured to sides of ship <u>double frames</u> .. .. .	<u>48</u>	<u>8</u>
KEELSONS. Are the various lengths of Plates and Angle Irons properly connected? .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	" Size of Vertical Angle Irons <u>3 x 2 1/2 x 5/8</u> and distance apart <u>30</u> ins. .. .. .	<u>48</u>	<u>8</u>
PLATING. Garboard, double riveted to Keel, with rivets .. .. .	<u>3 3 6</u>	<u>3 3 6</u>	" Are the outside Plates doubled two spaces of Frames in length? .. .. .	<u>48</u>	<u>8</u>
" Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets <u>3/4</u> in. diameter, averaging <u>3</u> ins. from centre to centre. .. .. .	<u>3 3 6</u>	<u>3 3 6</u>		<u>48</u>	<u>8</u>
" Butts from Keel to turn of Bilge, worked carvel, double riveted; with rivets <u>3/4</u> in. diameter averaging <u>2 7/8</u> ins. from centre to centre. .. .. .	<u>3 3 6</u>	<u>3 3 6</u>		<u>48</u>	<u>8</u>
" Butts of <u>all</u> Strakes at Bilge for <u>about 1/2</u> length, treble riveted with Butt Straps <u>3/20</u> thicker than the plates they connect. <u>untapped</u> .. .. .	<u>3 3 6</u>	<u>3 3 6</u>		<u>48</u>	<u>8</u>
" Edges from Bilge to Main Sheerstrake, worked clencher, <u>double</u> or single riveted; with rivets <u>3/4</u> in. diameter, averaging <u>3</u> ins. from cr. to cr. .. .. .	<u>3 3 6</u>	<u>3 3 6</u>		<u>48</u>	<u>8</u>
" Butts from Bilge to Main Sheerstrake, worked carvel, <u>double</u> riveted; with rivets <u>3/4</u> in. diameter, averaging <u>2 7/8</u> ins. from cr. to cr. .. .. .	<u>3 3 6</u>	<u>3 3 6</u>		<u>48</u>	<u>8</u>
" Edges of Main Sheerstrake, double or single riveted. <u>Upper Sheerstrake, double or single riveted</u> .. .. .	<u>3 3 6</u>	<u>3 3 6</u>		<u>48</u>	<u>8</u>
" Butts of Main Sheerstrake, treble riveted for <u>1/2</u> length amidships. <u>Butts of Upper or Spar Sheerstrake, treble riveted</u> length amidships. .. .. .	<u>3 3 6</u>	<u>3 3 6</u>		<u>48</u>	<u>8</u>
" Butts of Main Stringer Plate, treble riveted for <u>1/2</u> length amidships. <u>Butts of Upper or Spar Stringer Plate, treble riveted</u> for length. .. .. .	<u>3 3 6</u>	<u>3 3 6</u>		<u>48</u>	<u>8</u>
" Breadth of laps of plating in double riveting <u>6 diam</u> Breadth of laps of plating in single riveting <u>3 1/2 diam</u> .. .. .	<u>3 3 6</u>	<u>3 3 6</u>		<u>48</u>	<u>8</u>
Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted .. .. .	<u>3 3 6</u>	<u>3 3 6</u>		<u>48</u>	<u>8</u>
What description of <u>Steel</u> is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? <u>Siemens Martin</u> .. .. .	<u>3 3 6</u>	<u>3 3 6</u>		<u>48</u>	<u>8</u>
Manufacturer's name or trade mark, <u>Bolckow Vaughan &amp; Co</u> .. .. .	<u>3 3 6</u>	<u>3 3 6</u>		<u>48</u>	<u>8</u>
The above is a correct description. .. .. .	<u>3 3 6</u>	<u>3 3 6</u>		<u>48</u>	<u>8</u>
Builder's Signature, <u>Wm. Harrop</u> Surveyor's Signature, <u>N. M. Williams</u> .. .. .	<u>3 3 6</u>	<u>3 3 6</u>		<u>48</u>	<u>8</u>

State clearly where plating is of alternate thickness—as distinguished from distinguished thickness at ends of vessel. \* If Iron Deck, state if whole or part, and if wood deck is laid thereon.

Butt Straps of Keelsons, Stringer and Tie Plates, treble, double or single Riveted .. .. . No. of Breasthooks, 2 Crutches, deep floors  
 What description of Steel is used for Frames, Beams, Keelsons, Tie, and Stringer Plates, Outside Plating, &c.? Siemens Martin  
 Manufacturer's name or trade mark, Bolckow Vaughan & Co  
 The above is a correct description.  
 Builder's Signature, Wm. Harrop Surveyor's Signature, N. M. Williams  
 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 faying surfaces? Yes Do any rivets break into or through the seams or butts of the plating? a few

Masts, Bowsprit, Yards, &c., are Pitch Pine 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 stumped with Maker's name.  
 State also Length and Diameter of Lower Masts and Bowsprit

Fore Mast (to rigging) 43' x 12" No yards nor gaffs.  
Main " " 37' x 10"  
Stepped on Main etc.

Number for Equipment	CABLES, &c.			Test per Certificate Tons.	Fathoms & Inches per Rule.	Machine where Tested and Superintendent, also Name of Chain Maker.	ANCHORS. Number of Certificate (State if any and which Anchors are Stockless.)	Weight. Ex. Stock.	Test per Certificate	W'ght req'd per Rule.	Machine where Tested and Superintendent, also Name of Anchor Maker.
	Number of Certificate.	Fathoms.	Inches.								
Letter for do. ✓	8117	165	1	18	165.1	Ri. Mean Com	19600	2.2.0	10.12.2.0	8 1/2	Ri. Mean Com
N. SAILS.	Sumner & Co. Makers										
Fore Sails,	Calip correct.										
Fore Top Sails,	do										
Fore Foremost Stay Sail,	do										
Main Sails,	do										
Main Top Sails, and quality	do										
Iron Stream Chain	60	7/8		5 7/8	60. 7/8	do					
Iron Wire ..	do										
Warp .....	do										
Collective Weights	✓										
Stream .....	2.2.0			5.0.0.0	2.2.0	do					
Kedge .....	✓										
2nd Kedge....	✓										

Standing and Running Rigging Wich hemp sufficient in size and good in quality. She has 1 Life Boat and one other  
 The Windlass is Iron Capstan ✓ and Rudder Iron Pumps Iron

Engine Room Skylights.—How constructed? On Shelter etc., of teak How secured in ordinary weather? 2 inch top with thick glass.

Coal Bunker Openings.—How constructed? Cast iron etc. rings. How are lids secured? Heavy cast iron slipping into iron on deck. Height above deck? flush

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

Cargo Hatchway.—How formed? Plate covering Hatches, If strong and efficient? 2 1/2" solid pine  
 State size Main Hatch 17'6" x 9'10" Quarterhatches each 3'6" x 3'0"  
 If of extraordinary size, state how framed and secured... Main hatch 1 web beam 1 fore rafter What arrangement for shifting beams? do

Order for Special Survey No. 1400 Built under Special Survey  
 Date Sept 24<sup>th</sup> 89 1<sup>st</sup> visit October 8<sup>th</sup> 1889  
 Order for Ordinary Survey No. ✓  
 Date ✓ Last - 10 June 1890  
 No. 122 in builder's yard. State dates of letters respecting this case Sept 5<sup>th</sup> 20<sup>th</sup> Oct 4<sup>th</sup> 14<sup>th</sup> 21<sup>st</sup> Nov 7<sup>th</sup> 89<sup>th</sup> Feb 21<sup>st</sup> 28<sup>th</sup> 1890. Total No. of Visits 47

General Remarks (State quality of workmanship, &c.) Built under Special Survey, in accordance with the plans approved, & the rules for steel vessels. The workmanship and materials are good. Steel tested as per rule.

Five frames cut in after hold on each side to fit stern tubes, and compensated for by carrying the frames round the stern tubes by fitting a 3/4 inch steel plate outside and by a deep floor plate fitted to the aftermost cut frames and connected to a beam in the after hold.  
H. W. Lydell

How are the surfaces preserved from oxidation? Inside Portland Cement, & paint above Outside Paint.

Particulars for Record in R.B.—Length of Poop ✓ ft., R.Q.D. ✓ ft., Bridge Dk., ✓ ft., F'castle ✓ ft.; No. of Dks. (excluding spar, awn, &c.) 1  
 Material of dks. P. Pine If spar, awn, dk., &c. ✓ Material of spar, awn, dk., &c. ✓; No. of tiers of beams (with and without dks. laid) 1  
 Official No. 67609; Signal Letters + A 1 Steel For River Purposes. If double bottom, state particulars on separate form.

I am of opinion this Vessel should be Classed + A 1 Steel For River Purposes.  
 The amount of the Entry Fee .....£ 2 : : is received by me, K.H.D.  
 Special .....£ 21 : 13 : 14-6 1890  
N. M. Williams  
 Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute FRI 20 JUNE 1890  
 Character assigned A 1 Steel For River Purposes  
+ RMB  
10k ft Steel ws  
 It is submitted that this vessel has been built in accordance with the rules of Lloyd's Register of Shipping and is only to be classed A. 1 Steel For River Purposes on condition that the vessel is not to be used for any other purpose than river navigation.

Certificate to be sent to  
 The Surveyors are requested not to write on or below the space for Committee's Minute.

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