

2 Decks.

IRON STEEL STEAMER.

Received at London Office

State if Report is also sent on the Machinery of the Vessel

Date of completion of Report Oct. 16-1891

Port of West Hartlepool

No. 860

Survey held at West Hartlepool

Date, First Survey 10 Feb. 1891

Last Survey 15 Oct. 1891

On the Iron Steel Steamer "Emma"

Schooner Rig 2 Masts.

TONNAGE under Tonnage Deck... 2220.28

ONE TWO DECKED VESSEL.

Master O. Thoren

Do. of Poop 74.80

CLASS 100A1.

Year of appointment (1) As master in service of owner of present vessel—1891 (2) As master of this vessel—1891

Do. of Raised Or. Dk. or Break... 75.26

Built at West Hartlepool

Do. of Bridge House 327.72

When built 1891. Launched 5 Sep 1891

Do. of Houses on Deck 22.54

By whom built Irvine & Co.

Do. of excess of Hatchways 28.08

Owners J. Trechmann

Do. of Forecastle 44.39

Managers

Do. of Forecastle above Crown of Engine Room... 2893.07

(Where necessary to be entered in Reg. Book).

Gross Tonnage 2893.07

Residence West Hartlepool

Less Crew Space 63.99

Port belonging to West Hartlepool

Net Tonnage 2829.08

Less Engine Room 92.78

Less Navigation Spaces 16.92

Register Tonnage as cut on Beam... 1887.28

Half Breadth (moulded) 20.2

Depth from upper part of Keel to top of Main Deck Bms. 24.6

Girth of Half Midship Frame (as per Rule) 39.10

1st Number 84.6

Length 312.3

2nd Number 26385

Proportions—Breadths to Length 7.7

Depths to Length—Main Deck to top of Keel 12.7

Destined Voyage Port Said If Surveyed while Building, Afloat, or in Dry Dock

LENGTH on Deck as per Rule	Feet.	Inches.	BREADTH—Moulded	Feet.	Inches.	DEPTH—Keel to Main Deck Beams	Feet.	Inches.	Power of Engines	Horse.	No. of Decks with Flat laid	No. of Tiers of Beams
312	8		40	4		21	0		180		One	One

Dimensions of Ship per Register, Length, 314.4 breadth, 40.6 depth, 20.9.

Moulded Depth, ft. 23 ins. 8

Round of Beam 9 inches.

FORGINGS AND CASTINGS.

	Inches in Ship.	Inches per Rule, Or as Approved.
KEEL, Starboard Side Plates depth and thickness	10 x 1 1/8	10 x 1 1/8
STEM, moulding and thickness	10 x 2 3/4	10 x 2 3/4
STERN-POST for Rudder do. do.	11 x 5 1/2	11 x 5 1/2
" for Propeller	11 x 5 1/2	11 x 5 1/2
MAIN PIECE of Rudder, diameter at head...	8	8
do. at heel	4	4

RUDDER, how constructed Forged and Plated.

Can the Rudder be unshipped afloat? Yes.

FRAMING.

	Inches in Ship.	Inches per Rule, Or as Approved.
FRAME, Angles, or T-bars, for 1/2 length amidships	5 3/2 8	5 3/2 8
Do. for 1/2 at each end	5 3/2 7	5 3/2 7
Do. in way of Double Bottoms	3 1/2 3 1/2 8	3 1/2 3 1/2 8
Distance of Frames from moulding edge to moulding edge, all fore and aft	24	24
REVERSED FRAME, Angles	3 1/2 3 1/2 8	3 1/2 3 1/2 8
FLOORS, depth and thickness of Floor Plate at mid line for 1/2 length amidships		
" in way of Engines and Boilers		
thickness at the ends of vessel		
depth at 1/2 the half breadth, as per Rule		
height extended at the Bilges		

S & BRACKETS, in Cell Dble Bottoms

Distance apart 24 7 24 7

GIRDER, in Double Bottom, depth and thickness 52 10 52 10

Angles, Top 4 x 4 1/2 Bottom 5

BERS, number and thickness 8 5

Angles 8 5

PLATE, depth (exclusive of flange) and thickness 26 8 26 8

Angles 3 1/2 3 1/2 8 3 1/2 3 1/2 8

BOTTOM PLATING, breadth and thickness of Middle Line Strake 36 9 36 9

thickness in Engine and Boiler space 1/6 1/6

Remainder in Holds 1/6 1/6

MS, Main and Raised Quarter Deck, Single Angle, Bulb Angle, Plate or Tee Bulb 7 1/2 3 9 7 1/2 3 9

Angles on Upper Edge

Average space 24 24

MS, Lower Deck, Single Angle, Bulb Angle, Plate or Tee Bulb 10 10 10 10

Angles on Upper Edge 3 1/2 3 1/2 7 3 1/2 3 1/2 7

Average space 48 48

Hold, Plate or Tee Bulb 15 10 15 10

Angles on Upper Edge 5 4 9 5 4 9

Average space 1/6 1/6

S, Poop Deck, Angle, Bulb Angle, Plate or Tee Bulb 7 3 8 7 3 8

Angles on Upper Edge

Average space 48 48

S, Bridge Deck, Angle, Bulb Angle, Plate or Tee Bulb 5 1/2 3 7 5 1/2 3 7

Angles on Upper Edge

Average Space 24 24

S, Forecastle Deck, Angle, Bulb Angle, Plate or Tee Bulb 5 1/2 3 7 5 1/2 3 7

Angles on Upper Edge

Average space 24 24

S, In 'tween Decks, Size and Spacing 23 1/4 48 23 1/4 48

Hold 4 1/2 48 4 1/2 48

S, In Fore Body, No. and Spacing 13 6 spaced 13 6 spaced

Brdth & Thickness 18 8 18 8

No. of Side Stringers 3 1/2 3 1/2 8 3 1/2 3 1/2 8

In After Body, No. and Spacing 9 6 spaced 9 6 spaced

Brdth & Thickness 8 8 8 8

No. of Side Stringers 3 1/2 3 1/2 8 3 1/2 3 1/2 8

Angles or Tee Bars to Web Frames 3 1/2 3 1/2 8 3 1/2 3 1/2 8

BRACKET PLATES to Stringers between Web Frames, Depth and Thickness 20 20

KEELSONS AND STRINGERS.

	Inches in Ship.	Inches per Rule, Or as Approved.
CENTRE LINE KEELSON, Vertical Plate above floors, Through Plate, or Intercoastal Plate		
" Rider Plate		
" Bulb Plate to Intercoastal Keelson		
" Horizontal Plates on Floors		
" Angles		
SIDE KEELSON, Angles		
" Bulb or Plate above floors for length		
" Intercoastal Plate for length		
" Attached to outside plating with Angle		
BILGE KEELSON, Angles		
" Bulb or Plate above floors for length		
" Intercoastal Plate for length		
" Attached to outside plating with Angle		
BILGE STRINGER Angles		
" Bulb Plate for length		
" Intercoastal Plate for length		
" Attached to outside plating with Angle		
SIDE STRINGER Angles		
" Bulb or Intercoastal Plate for length		
Main and Raised Quarter Deck Stringer Plate, on ends of Beams, breadth & thickness	14 1/2 10 44 1/2 10	
" 2 Angle on ditto	4 x 4 x 9 4 x 4 x 9	
" Tie Plates fore & aft, outside Hatchways		
" Diagonal Tie Plates on Bms, No. of Pairs		
" Flat of Dk* Iron or Steel for whole length	7/20 x 7/16 7/20 x 9/16	
" " Wood Material & thickness		
" How fastened to Beams	3/4 3/4	
Lower Deck Stringer Plate, on ends of Beams, breadth and thickness	41 9 41 9	
" Angles on ditto, No. 2	4 x 4 x 9 4 x 4 x 9	
" Tie Plates, outside Hatchways		
" Flat of Deck* Material and thickness		
" How fastened to Beams		
Hold Stringer Plate, on ends of Beams	41 9 41 9	
" Angles on ditto, No. 2	4 x 4 x 9 4 x 4 x 9	
Poop Deck Stringer Plate, breadth & thickness	26 7 26 7	
" Angle on ditto	3 1/2 x 3 1/2 x 7 3 1/2 x 3 1/2 x 7	
" Tie Plates	12 12	
" Flat of Deck, Material and thickness	Yellow Pine 3 3	
Bridge Deck Stringer Plate, brdth & thickness	40 10 40 10	
" Angle on ditto	4 x 4 x 9 4 x 4 x 9	
" Tie Plates		
" Flat of Deck, Material and thickness	Iron 5/16 5/16	
Forecastle Deck Stringer Plate, brdth & thickness	20 5/16 20 5/16	
" Angle on ditto	3 1/2 x 3 1/2 x 7 3 1/2 x 3 1/2 x 7	
" Tie Plates		
" Flat of Deck, Material and thickness		

PLATING.

	Inches in Ship.	Inches per Rule, Or as Approved.
FLAT PLATE KEEL, breadth and thickness		
" doubling or increased thickness, & length appl.		
PLATES in Garboard Strakes, brdth & thickness	36 12 36 12	
" From Garboard to lower part of Bilges	12 x 11 12 x 11	
" State Thickness of Plating in way of Double Bottom	11 x 10 11 x 10	
" Bilges, number of Strakes and thickness		
" Of doubling at Bilge, or increased thickness, and length applied		
" from up. part of Bilge to lr. edge of Sh'rstrake	12 x 11 12 x 11	
Sheerstrake, breadth and thickness	42 15 42 15	
" Of d'bling at Sh'rstk. & lng. applied	22 ft and 24 ft (11 x 10) 11 x 10	
Poop Sides	7 7	
Raised Quarter Deck Sides	10 10	
Bridge Sides	10 10	
Forecastle Sides	7 7	
Lengths of Plating	16 ft 16 ft	

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Ceiling betwixt Decks, thickness and material <u>2 1/2</u>			BULKHEADS. No. in Vessel <u>5</u>		No. Req'd. by Rule <u>5</u>	
" in hold do. do. <u>2 1/2</u>			Thickness.	Angles.	Spacing.	Height up.
			W. T. BULKHEADS <u>7/16 to 9/16</u>	Vrtcl <u>5 x 3 1/2 x 8</u>	<u>30"</u>	To Upper Deck
				Hrztcl <u>1 1/2 x 3 x 9/16</u>	<u>48"</u>	Double
Number of Breasthooks <u>8</u>						
" Crutches <u>4</u>						

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

The FRAMES extend in one length from Centre line to tank side, & tank side to fumigate. Riveted through Plates with 7/8 in. Rivets, about 7" apart.

The REVERSED ANGLE on floors and frames extend from Centre line to tank side, and tank side to Upper Deck & upper stringer alternately.

RIVETING OF EDGES AND BUTTS OF SHELL PLATING AND BUTTS OF STRINGER PLATES, TIE PLATES, KEELSONS, &c.

Garboard, double riveted to Bar Keel or Flat Plate Keel, with rivets 1 1/8 in. diameter, averaging 5 3/8 ins. from centre to centre.

Edges of Garboards and to upper part of Bilge, worked clencher, double riveted; with rivets 7/8 in. diameter, averaging 3 1/2 ins. from centre to centre.

Butts from Keel to turn of Bilge, worked carvel, treble or double riveted; treble for 3/4 lgth.; with rivets 7/8 in. dia., averaging 3 1/8 ins. from cr. to cr.

" " B. D. F. & I " overlapped for length, treble riveted for length; with rivets 7/8 in. dia., averaging 3 1/8 ins. from cr. to cr.

Butts of all other Strakes at Bilge for 3/4 length, treble riveted with Butt Straps 4/16 thicker than the plates they connect.

Edges from Bilge to Sheerstrake, worked clencher, double or single riveted; with rivets 7/8 in. diameter, averaging 3 1/2 ins. from centre to centre.

Butts from Bilge to Sheerstrake, worked carvel, treble or double riveted; treble for 3/4 lgth.; with rivets 7/8 in. dia., averaging 3 1/8 ins. from cr. to cr.

" " " " overlapped for length, treble riveted for length; with rivets in dia., averaging ins. from cr. to cr.

Edges of Sheerstrake, double or single riveted.

Butts of Sheerstrake, treble riveted for 3/4 length amidships.

Butts of Main Stringer Plate, treble riveted for 3/4 length amidships. Single or Double Butt Straps to Stringer Plate for overlapped length

Butts of Inner Bottom Plating double riveted for 1/2 length. Butts of Centre Girder treble riveted.

Breadth of edge laps of Shell Plating in double riveting 6" 5 1/4" 4 1/2". Breadth of edge laps of Shell Plating in single riveting

Butt Straps of Shell Plating breadth and thickness 19" 16 3/4" 11 1/4" 9 3/4". Butts, if Lapped, breadth of laps 9 ins.

Butt Straps of Keelsons, Stringer and Tie Plates, treble or double riveted?

Manufacturer's name or trade mark of the Iron or Steel (state process of manufacture of Steel) used for Frames, Beams, Keelsons, Tie and Stringer Plates, Outside Plating, &c.? Siemens Martin Steel: - from, Bolckow Vaughan & Co. Ltd. - Eston: - Palmers Iron & Steel Co. Ltd. of Scotland. Consett and West Hartlepool Iron Co. Ltd. Iron from South Stockton & West Hartlepool Iron Co. Ltd.

Workmanship. Are the butts of plating planed or otherwise fitted? Planed, where practicable.

Is the riveted work properly closed? Yes.

Are the liners between the frames 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, generally. 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? Yes. A few.

Are the butts of Plating, Stringers, &c., properly shifted and strapped? Yes.

MASTS, SPARS, &c.

	Material.	Total Length	DIAMETER AND THICKNESS.				No. of Plates in round.	ANGLES.		RIVETING.	
			At Partners.	Heel.	11 rounds.	Head.		Number.	Size.	Seams.	Butts.
LOWER MASTS....	Fore	<u>Steel. 79.3</u>	<u>21 x 7/16</u>	<u>16 x 9/16</u>	<u>17 x 9/16</u>	<u>14 x 9/16</u>	<u>Two</u>	<u>✓</u>	<u>✓</u>	<u>Single</u>	<u>Treble & double</u>
	Main	<u>do. 69.0</u>	<u>20 x 7/16</u>	<u>16 x 9/16</u>	<u>16 1/2 x 9/16</u>	<u>13 1/2 x 9/16</u>	<u>do.</u>			<u>do.</u>	<u>do.</u>
	Misc.	<u>(approved 23/7/91)</u>									

Bowprit

Topmasts, Yards and Remainder of Spars Red Pine

Rigging, Material and Size, Shrouds Fore 3 3/4" Main 3 1/2" (Wire). Stays Fore 4 1/2" Main 4 1/4" (wire).

Sails. One Suit of Sails, and the following spare sails ✓

EQUIPMENT No. 29331 LETTER E. ANCHORS.

Number of Certificate.		WEIGHT, EX. STOCK			WEIGHT OF STOCK.			TEST, PER CERTIFICATE.				WEIGHT REQ. BY RULE.			Description of Anchor.	Makers.	Where and when tested and Superintendent.
		Cwts.	qrs.	lbs.	Cwts.	qrs.	lbs.	Tons.	cwts.	qrs.	lbs.	Cwts.	qrs.	lbs.			
30191.	1st Bower ..	<u>44</u>	<u>3</u>	<u>14</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>39</u>	<u>3</u>	<u>1</u>	<u>21</u>	<u>42</u>	<u>2</u>	<u>0</u>	<u>Tyacks Hookless</u>	<u>J. Green</u>	<u>22/6/91. Rotherham Machine</u>
30192.	2nd " ..	<u>39</u>	<u>3</u>	<u>7</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>35</u>	<u>13</u>	<u>1</u>	<u>21</u>	<u>42</u>	<u>2</u>	<u>0</u>	<u>do.</u>	<u>do.</u>	<u>22/6/91. D. Lewis</u>
30193.	3rd " ..	<u>36</u>	<u>1</u>	<u>21</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>33</u>	<u>8</u>	<u>3</u>	<u>0</u>	<u>36</u>	<u>1</u>	<u>0</u>	<u>do.</u>	<u>do.</u>	<u>22/6/91. Supt.</u>
	Collective weight	<u>121</u>	<u>0</u>	<u>14</u>				<u>107</u>	<u>24</u>	<u>5</u>	<u>0</u>	<u>121</u>	<u>1</u>	<u>0</u>			
21595.	Stream	<u>10</u>	<u>3</u>	<u>0</u>	<u>2</u>	<u>3</u>	<u>14</u>	<u>12</u>	<u>13</u>	<u>0</u>	<u>14</u>	<u>10</u>	<u>3</u>	<u>0</u>	<u>Rodgers Patent</u>	<u>H. P. Parkes & Co.</u>	<u>10/3/91. South Dock Machine</u>
21598.	Kedge	<u>5</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>7</u>	<u>7</u>	<u>16</u>	<u>1</u>	<u>0</u>	<u>5</u>	<u>2</u>	<u>0</u>	<u>do.</u>	<u>do.</u>	<u>10/3/91. Sunderland</u>
21691.	2nd Kedge ..	<u>2</u>	<u>2</u>	<u>21</u>	<u>0</u>	<u>3</u>	<u>7</u>	<u>5</u>	<u>5</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>2</u>	<u>0</u>	<u>do.</u>	<u>do.</u>	<u>14/4/91. J. Hartness Supt.</u>

CHAIN CABLES.

Number of Certificate.	Fathoms.	Size.	Test per Certificate. Tons.	Weight of Chain Cable.	Fathoms & Size. Per Rule.	Description.	Makers of Cables.	Where and when tested, and Superintendent.	Material.	Fathoms.	Size.	Fathoms & Size. Per Rule.
8946	<u>270</u>	<u>1 7/8</u>	<u>63 1/2</u>	<u>456</u>	<u>1.7</u>	<u>270 f. 1 7/8" Shank line</u>	<u>H. Parkes & Co.</u>	<u>South Dock. Sunderland</u>	<u>IRON</u>	<u>90</u>	<u>8"</u>	<u>90-8"</u>
8948	<u>55</u>	<u>1 1/8</u>	<u>22 1/4</u>	<u>47.3</u>	<u>2.1</u>	<u>55 f. 1 1/8" do.</u>	<u>do.</u>	<u>do.</u>	<u>do.</u>			
	<u>100</u>	<u>1 1/4</u>	<u>33</u>	<u>---</u>	<u>---</u>	<u>100 f. 1 1/4" Shank wire</u>	<u>Bullivant</u>	<u>do.</u>	<u>do.</u>			
	<u>90</u>	<u>3/4</u>	<u>22</u>	<u>---</u>	<u>---</u>	<u>90 f. 3/4" do.</u>	<u>do.</u>	<u>do.</u>	<u>do.</u>			
	<u>90</u>	<u>2 1/2</u>	<u>12</u>	<u>---</u>	<u>---</u>	<u>do.</u>	<u>do.</u>	<u>do.</u>	<u>do.</u>			

Boats 4 R. 2 Life boats & 2 Jolly Boats.

PUMPS. Number Six. Diameter of Barrel and Tail Pipe 5 1/2" & 3".

The Windlass is Iron & good. Capstan Winged. good.

Engine Room Skylights.—How constructed? of Iron plate & angled.

What arrangements for deadlights in bad weather? Strong shutters fitted with bulls' eyes.

Coal Bunker Openings.—How constructed? Plates & angled. How are lids secured? 2 1/2" latched. Height above deck? 15" and 60"

Number of Scuppers, and number and dimensions of Freeing Ports, &c. On each side: Forward, 3 Ports 24" x 21", and aft 4 Ports each 24" x 12". and seven Scuppers.

Cargo Hatchways.—How formed? of iron plates & angled. Hatches, if strong and efficient? Yes.

State size No. 1 Hatch (Forward) 18.0 x 14.0 x 40 No. 2 Hatch 24.0 x 15.0 x 24 No. 3 Hatch 24.0 x 15.0 x 36 No. 4 Hatch 24.0 x 14.0 x 36

Number of Web Plates, Shifting Beams, and Fore and Afters to each Hatch One web in No. 1 hatch: Two webs in No. 2, 3 & 4; and three fore & afters in all hatchways.

Bulwarks, height above deck and description 4.10" - iron. Main Rail, material and size 6 x 3 x 7/16 built angle.

The above is a correct description.

Builder's Signature, (here only.) J. Irvine & Co. General Managers

Surveyor's Signature, J. P. Phillips

Surveyor to Lloyd's Register of British and Foreign Shipping.

8607-92

Order for Special Survey No. 1473
Date Sept 19. 1890
Order for Ordinary Survey No. _____
Date _____
No. 73 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 Special Survey
Date 1st Survey 10 Feb 91
Last 15 Oct 91 Total No. of Visits 85

State dates and initials of letters respecting this case 15 Sep 1890 M. 20 Feb 1891 M. 25 Mar 1891 M.

General Remarks (State quality of workmanship, &c.) This vessel has been built in accordance with the Rules, and the approved tracings now in the London office.

The whole of the steel used in the hull & masts has been tested as prescribed by the Rules; and found satisfactory.

The workmanship is of good quality.

PARTICULARS FOR RECORD in the REGISTER BOOK.—Length of Poop 31 ft., R.Q.D. or Break 102 ft., Bridge Dk. 124 ft., F'castle 33 ft. (in feet and tenths) where the Poop is on top of the R.Q.D., or when the Poop or R.Q.D. is joined to the B.D., this should be distinctly stated Poop, Raised Quarter Deck and Bridge House joined.

No. and Material of Decks (if Iron or Steel) and whether wholly or partially covered with wood, and No. of tiers of Beams (this information is to be given as it should appear in the Register Book) One Deck (Iron & Steel), and web framed.
Official No. 98518; Signal Letters _____

PARTICULARS OF WATER BALLAST.—
Double bottom, aft, length 268ft and water capacity in tons 578. Double bottom, forward, length ✓ and water capacity in tons ✓.
Double bottom, under engines and boilers, length ✓ and water capacity in tons ✓. If under Engines only, or Boilers only, state which ✓.
Double bottom, constructed on the cellular system, length ✓ and water capacity in tons ✓.
Fore peak tank, water capacity in tons ✓. After peak tank, water capacity in tons ✓.
Midship deep tank, length ✓ and water capacity in tons ✓. Other tanks, if fitted, length ✓ and water capacity in tons ✓.
The above have not been tested as required by the Rules.
(If necessary, furnish further information by sketch.)
How are the surfaces preserved from oxidation? Inside by Portland Cement & paint Outside by paint.

FREEBOARD assigned by the Committee, as per Secretary's Letter, dated 9 Oct. 1891. M.
State if marked on Vessel's sides in accordance with Notice No. 572 Yes.

In Summer	<u>2 ft. 5 1/2 ins.</u>	To top of Wood, Iron or Steel Upper Deck. <u>Statutory deck line</u> <u>1 1/2" up.</u>
In Winter	<u>2 ft. 10 ins.</u>	
For Winter in North Atlantic	<u>3 ft. 2 1/2 ins.</u>	
Fresh Water above the centre of disc	<u>5 ins.</u>	

The amount of Entry Fee..... £ 5 : : is received by me, J.P. Phillips
Special ... £ 95 : 14 : 6 19.10.18 91. *Certificate to be sent to _____
Certificate* £ ✓ : :
Travelling Expenses, if any £ : :
I am of opinion this Vessel should be Classed * 100A1 "Steel".

Committee's Minute
Character assigned 100A1 Steel
+ Lmb 10/91
axp
10k pld pt Iron
web frames & xbs
well sk

It is submitted that this vessel appears eligible to be classed 100A1.1 (Steel) as recommended 1.5k/pt steel pt Iron and web frames 2 kts of beams all ok (particulars above) "well sk"

J.P. Phillips
Surveyor to Lloyd's Register of British and Foreign Shipping.
22.10.91.
Lloyd's Register Foundation

HL 366-0055(212)