

No. 2025

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 1834 No. in Register Book 3144

S.S. " SHIRLEY G. TAYLOR *E.H. see Judge Kenefick*

Makers of Engines EARLES S. & E. CO. LTD.

Works No. 649

Makers of Main Boilers EARLES S. & E. CO. LTD.

Works No. 649

Makers of Donkey Boiler

Works No.



MACHINERY



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003948-003957-0307

No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 183 # No. in Register Book 3144

Received at Head Office 5 MAY 1925

Surveyor's Report on the New Engines, Boilers, and Auxiliary
Machinery of the Single Triple Screw SHIRLEY G. TAYLOR

Official No. 148440 Port of Registry HULL.

Registered Owners Eastern Steamship Co. Ltd.
Port Colborne, Ontario

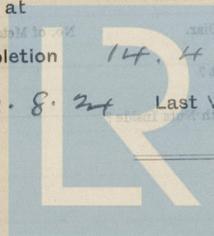
Engines Built by Earle S + E Co Ltd.
at Hull.

Main Boilers Built by Earle S + E Co Ltd.
at Hull.

Donkey " "

Date of Completion 14. 4. 25

First Visit 22. 8. 24 Last Visit 14. 4. 25 Total Visits 56.



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RECIPROCATING ENGINES.

Works No. **649** No. of Sets **1** Description **Triple Expansion****Surface Condensing**No. of Cylinders each Engine **3** No. of Cranks **3**
Diams of Cylinders **17" 28" 46"** Stroke **33"**Cubic feet in each L.P. Cylinder **31.7**

Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cylr.?

" " " each Receiver ?

Type of H.P. Valves,

" 1st I.P. "

" 2nd I.P. "

" L.P. "

" Valve Gear

" Condenser

Diameter of Piston Rods (plain part)

Screwed part (bottom of thread)

Material

Diam. of Connecting Rods (smallest part)

Material

" Crosshead Gudgeons

Length of Bearing

Material

No. of Crosshead Bolts (each)

Diam. over Thrd.

Thrds. per Inch

Material

" Crank Pin " " " " "

" Main Bearings

Lengths

" Bolts in each

Diam. over Thread

Threads per inch

Material

" Holding Down Bolts, each Engine

Diam.

No. of Metal Checks

Are the Engines bolted to the Tank Top or to a Built Seat ?

Are the Bolts tapped through the Tank Top and fitted with Nuts Inside ?

If not, how are they fitted ?

Connecting Rods, Forged by

Piston " "

Crossheads,

Connecting Rods, Finished by

Piston " "

Crossheads,

Date of Harbour Trial

" Trial Trip

Trials run at

Were the Engines tested to full power under Sea-going conditions ?

If so, what was the I.H.P.?

Pressure in 1st I.P. Receiver,

lbs., 2nd I.P.,

lbs., L.P.,

lbs., Vacuum,

ins.

Speed on Trial

If the Conditions on Trial were such that full power records were not obtained give the following estimated

data:—

Builders' estimated I.H.P.

Estimated Speed

950

Revs. per min. 86

9 1/2 knots.



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SHAFTING.

Are the Crank Shafts Built or Solid ?

No. of Lengths in each Angle of Cranks

Diar. by Rule Actual In Way of Webs

 " of Crank Pins Length between Webs

Greatest Width of Crank Webs Thickness

Least " " " "

Diar. of Keys in Crank Webs Length

 " Dowels in Crank Pins Length Screwed or Plain

No. of Bolts each Coupling Diar. at Mid Length Diar. of Pitch Circle

Greatest Distance from Edge of Main Bearing to Crank Web

Type of Thrust Blocks

No. " Rings

Diar. of Thrust Shafts at bottom of Collars No. of Collars

 " " Forward Coupling At Aft Coupling

Diar. of Intermediate Shafting by Rule Actual No. of Lengths

No. of Bolts, each Coupling Diar. at Mid Length Diar. of Pitch Circle

Diar. of Propeller Shafts by Rule Actual At Couplings

Are Propeller Shafts fitted with Continuous Brass Liners ?

Diar. over Liners Length of After Bearings

Of what Material are the After Bearings composed ?

Are Means provided for lubricating the After Bearings with Oil ?

 " " to prevent Sea Water entering the Stern Tubes ?

If so, what Type is adopted?

See Book 2023

SKETCH OF CRANK SHAFT.

No. of Blades each Propeller

Material of Blades

Diar. of Propellers

Condition of Displacement of Vessel at 1/2 Working Depth

Material

Crank Shafts forged by

 " Pins

 " Webs

 " Thrust Shafts

 " Intermediate

 " Propeller

 " Thrust

 " Intermediate

 " Propeller

See Book 2023

Handwritten boxes:

<i>13-3-22</i> GAN No 7868 B.C.	<i>12-1-22</i> GAN No 7863 B.C.	<i>14-2-22</i> GAN No 7868 B.C.
--	--	--



No. of Blades each Propeller Fitted or Solid?

Material of Blades Boss

Diar. of Propellers Pitch Surface (each S. ft.

Coefficient of Displacement of Vessel at $\frac{1}{2}$ Moulded Depth

Crank Shafts Forged by Material

“ Pins “ “

“ Webs “ “

Thrust Shafts “ “

Intermed. “ “ “

Propeller “ “ “

Crank “ Finished by

Thrust “ “

Intermed. “ “

Propeller “ “

See Book 2023

STAMP MARKS ON SHAFTS.

Crank

BC.
N ^o 7868
G A N.
4.3.25

Thrust

BC
N ^o 7863
G A N.
12.1.25
1025

Tail

B.C.
N ^o 7869
G A N.
13.3.25
1029

SKETCH OF PROPELLER SHAFT.

No. of the Pumps Diam.

Worked by Main or Independent Engines?

No. of Circulating Pumps Diam.

Type of “ Diam. of Section from Sea

Has each Pump a High Section with Non-return Valve? Diam.

What other Pumps can circulate through Condenser?

No. of Feed Pumps on Main Engines Diam.

Are Spring-loaded Relief Valves fitted to each Pump?

Can one Pump be overhauled while the others are at work? Diam.

No. of Independent Feed Pumps Diam.

What other Pumps can feed the Boilers?

No. of Bilge Pumps on Main Engines Diam.

Can one Pump be overhauled while the others are at work?

No. of Independent Bilge Pumps

What other Pumps can draw from the Bilges?

Are all High Sections fitted with Relief?

Are the Valves, etc., so arranged as to prevent unimpaired connection between Sea and Bilges?

Are all Sea Connections made with Valves or cocks next the ship's side?

Are they placed so as to be easily accessible?

Are the Discharge Cores placed above or below the Deep Lead Line?

Are they fitted direct to the Hull, strong and easily accessible?

Are the High Sections with separate through the High Frames and Covering Plates or Managers on the Outside?

See Book 2023



BOILERS.

Works No. **649.**
 No. of Boilers **2.** Type **Cylindrical Multitubular.**
 Single or Double-ended **Single ended**
 No. of Furnaces in each **2**
 Type of Furnaces **Deighton's**
 Date when Plan approved **11.9.24.**
 Approved Working Pressure **180 ltn \square "**
 Hydraulic Test Pressure **300 " "**
 Date of Hydraulic Test **9.3.25.**
 " when Safety Valves set **7.4.25**
 Pressure at which Valves were set **180 + 5 ltn.**
 Date of Accumulation Test **7.4.25**
 Maximum Pressure under Accumulation Test **192.**
 System of Draught
 Can Boilers be worked separately?
 Makers of Plates
 " Stay Bars
 " Rivets
 " Furnaces
 Greatest Internal Diam. of Boilers
 " " Length "
 Square Feet of Heating Surface each Boiler
 " " Grate "
 No. of Safety Valves each Boiler Rule Diam. Actual
 Are the Safety Valves fitted with Easing Gear?
 No. of Pressure Gauges, each Boiler No. of Water Gauges
 " Test Cocks " Salinometer Cocks

*See book 202 8" x 8" Kenepeck
 25. George*

BC. TEST
 No 2803.
 320 lb.
 WP 180 "
 G.A.N.
 9.3.25

*Port. + Starbo
 main boilers*



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Are the Water Gauges fitted direct to the Boiler Shells or mounted on Pillars?

Are the Water Gauge Pillars fitted direct to the Boiler Shells or connected by Pipes?

Are these Pipes connected to Boilers by Cocks or Valves?

Are Blow-off Cocks or Valves fitted on Boiler Shells?

No. of Strakes of Shell Plating in each Boiler

Plates in each Strake

Thickness of Shell Plates Approved

in Boilers

Are the Rivets Iron or Steel?

Are the Longitudinal Seams Butt or Lap Joints?

Are the Butt Straps Single or Double?

Are the Double Butt Straps of equal width?

Thickness of outside Butt Straps

inside

Are Longitudinal Seams Hand or Machine Riveted?

Are they Single, Double, or Treble Riveted?

No. of Rivets in a Pitch

Diar. of Rivet Holes Pitch

No. of Rows of Rivets in Centre Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diar. of Rivet Holes Pitch

No. of Rows of Rivets in Front End Circumferential Seams

Are these Seams Hand or Machine riveted?

Diar. of Rivet Holes Pitch

No. of Rows of Rivets in Back End Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diar. of Rivet Holes Pitch

Size of Manholes in Shell

Dimensions of Compensating Rings

Handwritten box containing: P. 3. 58, GAH, WA 180, 350 M, No 2803, B.C.T.E.

Handwritten notes: "Single ended", "Depth", "11.9 m", "Boiler D", "300"

Handwritten note: "See book 207"

Vertical list of boiler inspection questions on page 17, including: "Thickness of End Plates in Steam Space Approved", "Pitch of Steam Space Straps", "Diar. of Straps Approved", "Threads per Inch", "in Boilers", "Material of", "How are Straps Secured?", "Diar. and Thickness of Loose Washers on End Plates", "Welded", "Double Straps", "Thickness of Middle Head End Plates Approved", "in Boilers", "Thickness of Doublings in Wide Spaces between Ribbons", "Pitch of Straps at", "Diar. of Straps Approved", "Threads per Inch", "in Boilers", "Material", "Are Straps Bled with Hues outside?", "Thickness of Head End Plates at Bottom Approved", "in Boilers", "Pitch of Straps at Wide Spaces between Ribbons", "Thickness of Doublings", "Pitch of Straps at Bottom Approved", "in Boilers", "Diar. of Straps Approved", "Threads per Inch", "in Boilers", "Material"



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Thickness of End Plates in Steam Space Approved

" " " " " in Boilers

Pitch of Steam Space Stays

Diar. " " " " Approved Threads per Inch

" " " " " in Boilers

Material of " " "

How are Stays Secured ?

Diar. and Thickness of Loose Washers on End Plates

" " Riveted " " "

Width " " Doubling Strips "

Thickness of Middle Back End Plates Approved

" " " " " in Boilers

Thickness of Doublings in Wide Spaces between Fireboxes

Pitch of Stays at " " "

Diar. of Stays Approved Threads per Inch

" " in Boilers

Material "

Are Stays fitted with Nuts outside ?

Thickness of Back End Plates at Bottom Approved

" " " " " in Boilers

Pitch of Stays at Wide Spaces between Fireboxes

Thickness of Doublings in " "

Thickness of Front End Plates at Bottom Approved

" " " " " in Boilers

No. of Longitudinal Stays in Spaces between Furnaces

See March 2023

Threads per Inch

Dist. of Stays Approved

" " " " in Boilers

Material

Thickness of Front Tube Plates Approved

" " " " in Boilers

Pitch of Stay Tubes at Spaces between Spaces of Tubes

" " " " "

Thickness of Doublings in Stay Tubes at

" " " " "

Are Stay Tubes fitted with Nuts at Front End ?

Thickness of Back Tube Plates Approved

" " " " in Boilers

Pitch of Stay Tubes in Back Tube Plates

" " " " "

Thickness of Stay Tubes

" " " " "

External Dist. of Tubes

Material

Thickness of Furnace Plates Approved

" " " " in Boilers

Smallest outside Dist. of Furnaces

Length between the Stays

Dist. at bottom of Stays (front to back)

Dist. of Stay Tubes at Bottom of Tubes

Dist. of Stay Tubes at Top of Tubes

Dist. of Stay Tubes at Bottom of Tubes

Dist. of Stay Tubes at Top of Tubes

See March 2023



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Diar. of Stays Approved Threads per Inch

" " in Boilers

Material

Thickness of Front Tube Plates Approved

" " " " in Boilers

Pitch of Stay Tubes at Spaces between Stacks of Tubes

Thickness of Doublings in " " "

" Stay Tubes at " " "

Are Stay Tubes fitted with Nuts at Front End ?

Thickness of Back Tube Plates Approved

" " " in Boilers

Pitch of Stay Tubes in Back Tube Plates

" Plain "

Thickness of Stay Tubes

" Plain "

External Diar. of Tubes

Material

See book 2028

Thickness of Furnace Plates Approved

" " " in Boilers

Smallest outside Diar. of Furnaces

Length between Tube Plates

Width of Combustion Chambers (Front to Back)

Thickness of " " Tops Approved

" " " in Boilers

Pitch of Screwed Stays in C.O. Tops

Diar. of Screwed Stays Approved Threads per Inch

" " in Boilers

Material

Thickness of Combustion Chamber Stays Approved

" " in Boilers

Pitch of Screwed Stays in C.O. Tops

Thickness of Doublings in " " "

" Stay Tubes at " " "

Material

Thickness of Combustion Chamber Backs Approved

" " in Boilers

Pitch of Screwed Stays in C.O. Tops

Thickness of Doublings in " " "

" Stay Tubes at " " "

Material

Are all Screwed Stays fitted with Nuts at C.O.?

Thickness of Combustion Chamber Bottoms

No. of Rivets over each Wing Chamber

Centre

Height and Thickness of Tops

Material of Rivets

No. of Stays in each

No. of Rivets in each

Size of Rivets



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Diar. of Screwed Stays Approved Threads per Inch

" " " in Boilers

Material " "

Thickness of Combustion Chamber Sides Approved

" " " " in Boilers

Pitch of Screwed Stays in C.C. Sides

Diar. " " Approved Threads per Inch

" " " in Boilers

Material " "

Thickness of Combustion Chamber Backs Approved

" " " " in Boilers

Pitch of Screwed Stays in C.C. Backs

Diar. " " Approved Threads per Inch

" " " in Boilers

Material " "

Are all Screwed Stays fitted with Nuts inside C.C.?

Thickness of Combustion Chamber Bottoms

No. of Girders over each Wing Chamber

" " " Centre "

Depth and Thickness of Girders

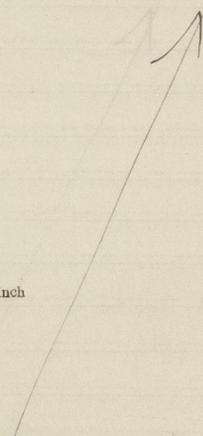
Material of Girders

No. of Stays in each

No. of Tubes, each Boiler

Size of Lower Manholes

See book 2023



VERTICAL DONKEY BOILERS

No. of Boilers
Type
Greatest In. Diar.
Height of Boiler Crown above Fire Grate
Are Boiler Crown Flat or Dished?
Internal Radius of Dished Ends
Thickness of Plates
Description of Beams in Boiler Crown
Diar. of Rivet Holes
Pitch
Height of Pinbox Crown above Fire Grate
Are Pinbox Crown Flat or Dished?
External Radius of Dished Crown
No. of Crown Stays
Material
External Diar. of Pinbox at Top
Thickness of Plates
Bottom
No. of Water Tubes
Diar. Diar.
Material of Water Tubes
Diar. Diar.
Size of Manhole in Shell
Dimensions of Compressing Ring
Heating Surface, each Boiler
Plate Surface

SUPERHEATERS

Description of Superheaters
Where situated?
What Boilers are connected to Superheaters?
Can Superheaters be shut off while Boilers are working?
Type of Safety Valves on each Superheater
Are " fitted with locking device?
Date of Examination Test
Pressure on Valves
Date when Safety Valves set



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VERTICAL DONKEY BOILERS.

No. of Boilers _____ Type _____

Greatest Int. Diar. _____ Height _____

Height of Boiler Crown above Fire Grate _____

Are Boiler Crowns Flat or Dished? _____

Internal Radius of Dished Ends _____ Thickness of Plates _____

Description of Seams in Boiler Crowns _____

Diar. of Rivet Holes _____ Pitch _____ Width of Overlap _____

Height of Firebox Crowns above Fire Grate _____

Are Firebox Crowns Flat or Dished? _____

External Radius of Dished Crowns _____ Thickness of Plates _____

No. of Crown Stays _____ Diar. _____ Material _____

External Diar. of Firebox at Top _____ Bottom _____ Thickness of Plates _____

No. of Water Tubes _____ Ext. Diar. _____ Thickness _____

Material of Water Tubes _____

Size of Manhole in Shell _____

Dimensions of Compensating Ring _____

Heating Surface, each Boiler _____ Grate Surface _____

None fitted

SUPERHEATERS.

Description of Superheaters _____

Where situated? _____

Which Boilers are connected to Superheaters? _____

Can Superheaters be shut off while Boilers are working? _____

No. of Safety Valves on each Superheater _____ Diar. _____

Are " " fitted with Easing Gear? _____

Date of Hydraulic Test _____ Test Pressure _____

Date when Safety Valves set _____ Pressure on Valves _____

MAIN STEAM PIPES

No. of Pipes _____

Material _____

Joined, Welded or Seamed _____

Internal Diar. _____

Thickness _____

How are Flanges secured? _____

Date of Hydraulic Test _____

Test Pressure _____

No. of Lengths _____

Material _____

Joined, Welded or Seamed _____

Internal Diar. _____

Thickness _____

How are Flanges secured? _____

Date of Hydraulic Test _____

Test Pressure _____

2
Steel
Seamed
14"
1/4"
Expanded in process
3.4 x 24
240 lbs



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MAIN STEAM PIPES.

No. of Lengths	2
Material	Steel
Brazed, Welded or Seamless	Seamless
Internal Diam.	4"
Thickness	$\frac{1}{4}$ "
How are Flanges secured?	Expanded in grooves
Date of Hydraulic Test	3.4.25
Test Pressure	540 lbs.
No. of Lengths	
Material	
Brazed, Welded or Seamless	
Internal Diam.	
Thickness	
How are Flanges secured?	
Date of Hydraulic Test	
Test Pressure	
No. of Lengths	
Material	
Brazed, Welded or Seamless	
Internal Diam.	
Thickness	
How are Flanges secured?	
Date of Hydraulic Test	
Test Pressure	

SUPERHEATERS

FEED WATER HEATERS

No.	1
Type	Surface
Material	Steel
Working Pressure	180 lbs.
Date of Test	10.8.22
Test Pressure	200 lbs.

FEED WATER FILTERS

No.	1
Type	Subsidiary
Material	Steel
Working Pressure	1180 lbs.
Date of Test	7.4.22
Test Pressure	1180 lbs.



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Positions of Auxiliary Switch Boards, with No. of Switches on each

Installation Particulars
No. and Description of Dynamos
Makers of Dynamos
Capacity
Current Alternating or Continuous
Single or Double Wire System
Location of Dynamos
Main Switch Board
No. of Circuits to which Switches are provided on Main Switch Board
Particulars of these Circuits—

Circuit	Number of Lamps	Number of Motors	Other

Are Cut-outs fitted as follows?—

On Main Switch Board, to Cables of Main Circuits

On Aux. " " each Auxiliary Circuit

Wherever a Cable is reduced in size

To each Lamp Circuit

To both Flow and Return Wires of all Circuits when the Double-Wire System is adopted

Are the Fuses of Standard Sizes?

Are all Switches and Cut-outs constructed of Non-inflammable Material?

Are they placed so as to be always and easily accessible?

Smallest Single Wire used, No. S.W.G., Largest, No. S.W.G.

How are Conductors in Engine and Boiler Spaces protected?

" Saloons, State Rooms, &c., " ?

What special protection is provided in the following cases?—

(1) Conductors exposed to Heat or Damp

(2) " " passing through Bunkers or Cargo Spaces

(3) " " Deck Beams or Bulkheads

Are all Joints in Cables properly soldered and thoroughly Insulated so that the efficiency of the Cables is unimpaired?

Are all Joints in accessible positions, none being made in Bunkers or Cargo Spaces?

Are all Hull Connections for Single-Wire Systems made with Screws of large Surface?

Are the Dynamos, Motors, Main and Branch Cables, so placed that the Compasses are not injuriously affected by them?

Have Tests been made to prove that this condition has been satisfactorily fulfilled?

Has the Insulation Resistance over the whole system been tested?

What does the Resistance amount to?

Is the Installation supplied with a Voltmeter?

" " " an Ampere Meter?

Date of Trial of complete Installation 11-4-25 Duration of Trial 6 hours.

Have all the requirements of Section 42 been satisfactorily carried out?

When the materials used in the construction of Engines and Boilers so far as could be seen, sound and
the Workmanship throughout thoroughly satisfactory



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GENERAL CONSTRUCTION.

Have the Machinery and Boilers been constructed in accordance with the requirements of the Rules and the

Approved Plans? *Yes*

If not, give details of the points of difference, and state when these were sanctioned by the Chief

Surveyor.

Are the Machinery, Boilers, Main and Branch Pipes, and other parts, as placed, so placed that the

Installation is in accordance with the Rules and Regulations?

Have the Machinery, Boilers, Main and Branch Pipes, and other parts, as placed, so placed that the

Installation is in accordance with the Rules and Regulations?

What does the Resistance amount to?

Is the Installation in accordance with the Rules and Regulations?

Are the Machinery, Boilers, Main and Branch Pipes, and other parts, as placed, so placed that the

Installation is in accordance with the Rules and Regulations?

Have all the requirements of Section 12 been satisfactorily carried out?

Are the Machinery, Boilers, Main and Branch Pipes, and other parts, as placed, so placed that the

Installation is in accordance with the Rules and Regulations?

On the Matter of the Rules, in relation to the Machinery, Boilers, Main and Branch Pipes, and other parts,

Wherever it is required to use

Each Lamp Glass

Are the Materials used in the Construction of Engines and Boilers, so far as could be seen, sound and

trustworthy? *Yes*

Is the Workmanship throughout thoroughly satisfactory? *Yes*

Are they placed so as to be always accessible?

Surface Slag Wire used, No.

The above correctly describes the Machinery of the S.S. "SHIRLEY G. TAYLOR."

as ascertained by me from personal examination

Levas Cecil
 Engineer Surveyor to the British Corporation for the
 Survey and Registry of Shipping.

Fees—

MAIN BOILERS.		£	s.	d.
H.S.	2940	Sq. ft.	:	:
G.S.	76	"	:	:
DONEY BOILERS.				
H.S.	✓	Sq. ft.	:	:
G.S.	✓	"	:	:
		£	:	:
ENGINES.				
L.P.O.	31.7	Cub. ft.	:	:
		£	:	:
Testing, &c.			:	:
		£	:	:
Expenses			:	:
		£	:	:
Total		£	:	:

It is submitted that this Report be approved,

Walter King
 Chief Surveyor.

Approved by the Committee for the Class of M.B.S.* on the

20th May 1925

Fees advised

Fees paid



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 Foundation Secretary.



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