

No. 1782

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. *16603* No. in Register Book *2973*

KIMMOUNT

S.S. *"Dalrymple"*

Makers of Engines *Hewes & Phillips*

Works No. *1214*

Makers of Main Boilers *The Collingwood S. B. Co. Ltd.*

Works No. *196*

Makers of Donkey Boiler

Works No.

MACHINERY.



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No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. *1663* No. in Register Book *2923*

Received at Head Office *17th November 1923*

Surveyor's Report on the NEW Engines, Boilers, and Auxiliary
Machinery of the Single Triple Steamer
~~Steam~~ Steamer

"DALRYMPLE"

Official No. *138187* Port of Registry *Collingwood, Ont.*

Registered Owners *The Collingwood S. B. Co. Ltd.*

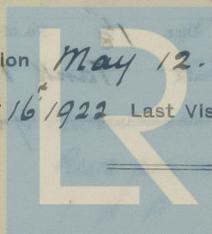
Engines Built by *Hewes & Phillips*
at *Newark N.*

Main Boilers Built by *The Collingwood S. B. Co. Ltd.*
at *Collingwood, Ont. Canada.*

Donkey " " *None.*

at
Date of Completion *May 12, 1923.*

First Visit *Nov 16, 1922* Last Visit *May 9th 1923* Total Visits *5.*



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RECIPROCATING ENGINES.

Works No. - *C.S.B.Co. 86*
 1214

No. of Sets *1* Description *Triple Expansion*

No. of Cylinders each Engine *3* No. of Cranks *3*

Diams. of Cylinders *15½" - 26" - 44"* Stroke *26"*

Cubic feet in each L.P. Cylinder *2245 c.f. 22.87*

Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cylr.? *To H.P. & L.P. chests*

" " " each Receiver?

Type of H.P. Valves, *Piston Valve.*

" 1st L.P. " *Piston Valve.*

" 2nd L.P. " *— —*

" L.P. " *Piston Valve.*

" Valve Gear *Stevenson Link Motion*

" Condenser *Surface.* Cooling Surface *1000* sq. ft.

Diameter of Piston Rods (plain part) *3¾"* Screwed part (bottom of thread)

Material " *Steel*

Diam. of Connecting Rods (smallest part) *3¾"* Material *M.S.*

" Crosshead Gudgeons *4½"* Length of Bearing *5½"* Material *M.S.*

No. of Crosshead Bolts (each) *2* Diam. over Thrd. *2¼"* Thrd. per inch Material

" Crank Pin " " *2* " " *2½"* " " "

" Main Bearings *6* Lengths *1-10¾" 4-9¾" 1-9¾"*

" Bolts in each *2* Diam. over Thread *2¼"* Threads per inch Material

" Holding Down Bolts, each Engine *68* Diam. *1½"* No. of Metal Checks *68*

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

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

If not, how are they fitted?

Connecting Rods, Forged by

Piston " "

Crossheads, " "

Connecting Rods, Finished by

Piston " "

Crossheads, " "

Date of Harbour Trial *May 12-1923.*" Trial Trip *#*Trials run *see note below.*Were the Engines tested to full power under Sea-going conditions? *No.*

If so, what was the L.H.P.? Revols. per min.

Pressure in 1st L.P. Receiver, lbs., 2nd L.P., lbs., L.P., lbs., Vacuum, lbs.

Speed on Trial

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

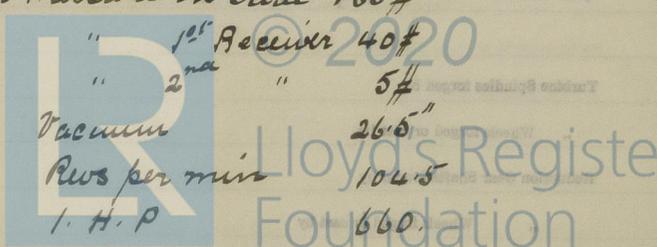
data:—

Builders' estimated L.H.P. *700* Revols. per min. *110*Estimated Speed *9½ to 10 Knots.*

Note:— Owing to size & form it was found impracticable to carry out the usual trial trip, an extended dock trial was therefore carried out and everything was found in order.

Steam Pressure on trial *180#*" 1st Receiver *40#*" 2nd " *5#*Vacuum *26.5"*Revs per min *104.5*I. H. P. *660.*

Sizer Forge Co. Buffalo N.Y.
do do
Tacony Steel Co.
Newes and Phillips
do do



TURBO-ELECTRIC PROPELLING MACHINERY.

No. of Turbo-Generating Sets Capacity of each

Type of Turbines employed

Description of Generators

No. of Motors driving Propeller Shafting

Are the Propeller Shafts driven direct by the Motors or through Gearing?

Is Single or Double Reduction Gear employed?

Description of Motors

Diam. of 1st Reduction Pinion

" 1st " Wheel

} Width

Pitch of Teeth

Estimated Pressure per lineal inch

Diam. of 2nd Reduction Pinion

" 2nd " Wheel

} Width

Pitch of Teeth

Estimated Pressure per lineal inch

Revs. per min. of Generators at Full Power

" Motors "

" " 1st Reduction Shaft

" " 2nd "

" " Propellers at Full Power

Total Shaft Horse Power

Date of Harbour Trial

" Trial Trip

Trials run at

Speed on Trial

Knots. Propeller Revs. per min.

S.H.P.

Makers of Turbines

" Generators

" Motors

" Reduction Gear

Turbine Spindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

" Wheels forged or cast by

DESCRIPTION OF INSTALLATION.



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SHAFTING.

Are the Crank Shafts Built or Solid? **Built**

No. of Lengths in each **?** Angle of Cranks **120°**

Diar. by Rule **8.02"** Actual **8 $\frac{3}{8}$ "** In Way of Webs **?**

" of Crank Pins **8 $\frac{3}{8}$ "** Length between Webs **10"**

Greatest Width of Crank Webs **17"** Thickness **HP-6" 1P-6 $\frac{1}{2}$ " WP-7"**

Least " " **17"** " " " " " "

Diar. of Keys in Crank Webs **2 \times 1 $\frac{1}{2}$ "** Length **7"**

" Dowels in Crank Pins Length Screwed or Plain " " "

No. of Bolts each Coupling **6** Diar. at Mid Length **2 $\frac{5}{16}$ "** Diar. of Pitch Circle **13**

Greatest Distance from Edge of Main Bearing to Crank Web **5 $\frac{1}{16}$ "**

Type of Thrust Blocks **Cast Iron Horse Shoe, adjusted with steel nuts.**

No. " Rings **6**

Diar. of Thrust Shafts at bottom of Collars **8 $\frac{3}{8}$ "** No. of Collars **6**

" " Forward Coupling **8 $\frac{3}{8}$ "** At Aft Coupling **8 $\frac{3}{8}$ "**

Diar. of Intermediate Shafting by Rule - Actual - No. of Lengths **0**

No. of Bolts, each Coupling **6** Diar. at Mid Length Diar. of Pitch Circle **13"**

Diar. of Propeller Shafts by Rule **9.18"** Actual **9 $\frac{1}{4}$ "** At Couplings **9"**

Are Propeller Shafts fitted with Continuous Brass Liners? **yes.**

Diar. over Liners **10 $\frac{1}{2}$ "** Length of After Bearings **3'-6"**

Of what Material are the After Bearings composed? **Lignum Vitae**

Are Means provided for lubricating the After Bearings with Oil? **yes.**

" " to prevent Sea Water entering the Stern Tubes? **no.**

If so, what Type is adopted?

SKETCH OF CRANK SHAFT.

[Faint, mostly illegible handwritten notes and sketches on the right page, including a large curved line sketch.]



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PUMPS, ETC.

No. of Air Pumps *1 Twin Beam* Diar. *18"* Stroke *12"*
 Worked by Main or Independent Engines? *Independent.*

No. of Circulating Pumps *1* Diar. Stroke
 Type of " *Centrifugal*
 Diar. of " Suction from Sea *7"*
 Has each Pump a Bilge Suction with Non-return Valve? *yes* Diar. *5"*
 What other Pumps can circulate through Condenser? *Donkey Pump*

No. of Feed Pumps on Main Engine *0* Diar. - Stroke -
 Are Spring-loaded Relief Valves fitted to each Pump? -
 Can one Pump be overhauled while the others are at work? -
 No. of Independent Feed Pumps *2* Diar. *6"* Stroke *12"*
 What other Pumps can feed the Boilers? *none.*

No. of Bilge Pumps on Main Engine *0* Diar. - Stroke -
 Can one Pump be overhauled while the others are at work? *yes.*
 No. of Independent Bilge Pumps *2*
 What other Pumps can draw from the Bilges? *none*

Are all Bilge Suctions fitted with Roses? *yes.*
 Are the Valves, etc., so arranged as to prevent unintentional connection between Sea and Bilges? *yes.*
 Are all Sea Connections made with Valves or Cocks next the Ship's sides? *yes.*
 Are they placed so as to be easily accessible? *yes.*
 Are the Discharge Chests placed above or below the Deep Load Line? *above.*
 Are they fitted direct to the Hull Plating and easily accessible? *yes.*
 Are all Blow-off Cocks or Valves fitted with Spigots through the Hull Plating and Covering Plates or Flanges on the Outside? *yes.*

BOILERS

1st
2nd
3rd
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99th
100th



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Thickness of End Plates in Steam Space Approved *Front - 840" Back - 838"*

" " " " " in Boilers " - 840" " - 838"

Pitch of Steam Space Stays *16" x 18 1/2"*

Diar. " " " " Approved *2 3/4* Threads per Inch

" " " " " in Boilers *2 3/4* " "

Material of " " " *Steel*

How are Stays Secured? *nuts on inside & outside*

Diar. and Thickness of Loose Washers on End Plates

" " Riveted " " "

Width " " Doubling Strips " *765"*

Thickness of Middle Back End Plates Approved *-*

" " " " " in Boilers *-*

Thickness of Doublings in Wide Spaces between Fireboxes *9"*
Pitch of Stays at " " " " *6 3/8" x 13 3/4"*

Diar. of Stays Approved *1 1/2* Threads per Inch *10*

" " in Boilers *1 1/4 Margin 1 1/8 other*

Material " *Steel*

Are Stays fitted with Nuts outside? *yes.*

Thickness of Back End Plates at Bottom Approved *11/16"*

" " " " " in Boilers' *11/16"*

Pitch of Stays at Wide Spaces between Fireboxes *6 3/8" x 13 3/4"*

Thickness of Doublings in " " *9/16"*

Thickness of Front End Plates at Bottom Approved *11/16"*

" " " " " in Boilers *11/16"*

No. of Longitudinal Stays in Spaces between Furnaces *3*

Handwritten notes and calculations on page 19, including dimensions like 13 1/4 x 13 1/4 and 1 1/2 x 1 1/2.



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Diam. of Screwed Stays Approved $1\frac{1}{2}$ " Threads per Inch 10
 " " " in Boilers $1\frac{1}{2}$ "
 Material " " Steel

Thickness of Combustion Chamber Sides Approved $\frac{19}{32}$ "
 " " " in Boilers $\frac{19}{32}$ "
 Pitch of Screwed Stays in C.O. Sides $6\frac{1}{4}$ " x $6\frac{9}{16}$ "
 Diam. " " Approved $1\frac{1}{4}$ " Threads per Inch 10
 " " " in Boilers $1\frac{1}{4}$ "
 Material " " Iron.

Thickness of Combustion Chamber Backs Approved Wings - $\frac{9}{16}$ " Centre - .587"
 " " " in Boilers " $\frac{9}{16}$ " " - .587"
 Pitch of Screwed Stays in C.O. Backs $6\frac{3}{16}$ " x 5"
 Diam. " " Approved $1\frac{1}{8}$ " Threads per Inch 10
 " " " in Boilers $1\frac{1}{8}$ "
 Material " " Iron

Are all Screwed Stays fitted with Nuts inside C.O.? no
 Thickness of Combustion Chamber Bottoms $\frac{7}{8}$ "
 No. of Girders over each Wing Chamber 5
 " " " Centre " 4
 Depth and Thickness of Girders $1\frac{1}{4}$ " x $10\frac{1}{2}$ "
 Material of Girders Steel Plate.
 No. of Stays in each 3
 No. of Tubes, each Boiler 309
 Size of Lower Manholes 11" x 15"

VERTICAL DONKEY BOILERS.

No. of Boilers
 General Int. Diam.
 Height of Boiler Crown above Fire Grate
 Air Inlet Crown Flat or Dished
 Internal Radius of Dished Boilers
 Description of Crown in Boiler Crown
 Diam. of Rivet Hole
 Width of Overlap
 Height of Rivet Crown above Fire Grate
 Air Inlet Crown Flat or Dished
 Internal Radius of Dished Crown
 No. of Crown Stays
 Diam.
 Thickness of Plates
 Internal Diam. of Firebox at Top
 No. of Water Tubes
 Diam. Diam.
 Height of Water Tubes
 Size of Manhole in Shell
 Dimensions of Combustion Flue
 Heating Surface, each Boiler
 Gross Surface

SUPERHEATERS

Description of Superheater
 Water Surface
 Which Boilers are Superheated
 Can Superheaters be put on while Boilers are working
 No. of Safety Valves on each Superheater
 Size of Safety Valve
 Date of Installation
 Date when Safety Valves last



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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

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
 Internal Radius of Dished Ends
 Internal Diar.
 Thickness
 How are Seams connected?
 Date of Hydraulic Test
 Test Pressure

No. of Pipes
 Material
 Internal Radius of Dished Ends
 Internal Diar.
 Thickness
 How are Seams connected?
 Date of Hydraulic Test
 Test Pressure



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MAIN STEAM PIPES.

No. of Lengths	1		
Material	10 Iron		
Brazed, Welded or Seamless	Seamless		
Internal Diam.	4.813"		
Thickness	.375		
How are Flanges secured?	Riveted		
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			
No. of Lengths			
Material			
Brazed, Welded or Seamless			
Internal Diam.			
Thickness			
How are Flanges secured?			
Date of Hydraulic Test			
Test Pressure			

STEAM EVAPORATOR TUBES

No.	1		
Material	Steel		
Brazed, Welded or Seamless			
Internal Diam.			
Thickness			
How are Flanges secured?			
Date of Hydraulic Test			
Test Pressure			

FEED WATER HEATERS

No.	1		
Material	Steel		
Brazed, Welded or Seamless			
Internal Diam.			
Thickness			
How are Flanges secured?			
Date of Hydraulic Test			
Test Pressure			

FEED WATER FILTERS

No.	1		
Material	Steel		
Brazed, Welded or Seamless			
Internal Diam.			
Thickness			
How are Flanges secured?			
Date of Hydraulic Test			
Test Pressure			



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EVAPORATORS.

No.	Type	Tons per Day
Makers		
Working Pressure	Test Pressure	Date of Test
Date of Test of Safety Valves under Steam		

FEED WATER HEATERS.

No.	Type	
1		
Makers	<i>Schutte & Hoerting Co.</i>	
Working Pressure	Test Pressure	Date of Test

FEED WATER FILTERS.

No.	Type	Size
1	<i>Pressure Type.</i>	
Makers	<i>Caird & Rayner.</i>	
Working Pressure	Test Pressure	Date of Test

LIST OF DONKEY PUMPS.

1- *7 1/2" x 4 1/2" x 12" Horizontal Duplex.*

1	7 1/2" x 4 1/2" x 12"	Horizontal Duplex
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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?

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

Main Boiler constructed in accordance with the requirements of the Rules & Approved plans.

Main Engine constructed in accordance with the Requirements of the Rules of the American Bureau of Shipping

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.*

The above correctly describes the Machinery of the S.S. "*Dalrymple*" as ascertained by ^{us}me from personal examination

H. W. Morris.
Engineer Surveyor to the British Corporation for the Survey and Registry of Shipping.

Fees—

MAIN BOILERS.

		£	s.	d.
H.S.	<i>1955</i>	Sq. ft.	<i>\$60</i>	<i>00</i>
G.S.	<i>50</i>	"	:	:

DONKEY BOILERS.

H.S.		Sq. ft.	:	:
G.S.		"	:	:
		£	:	:

ENGINES.

L.P.C.	<i>22.87</i>	Cub. ft.	<i>\$108</i>	<i>00</i>
		£	:	:

Testing, &c. : :

Expenses *see full book.*

Total ... *\$168* : *00* :

It is submitted that this Report be approved,

George King
Chief Surveyor.

Approved by the Committee for the Class of M.B.S.* on the *21st November 1913.*

Fees advised

Fees paid

6th June 1913
8th June 1913



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Secretary.

GENERAL INFORMATION

MAIL ORDER

1988

20

DOCKETS

Main Order completed in accordance with the requirements of the Rules & Appropriate Plans

Main Enquiry completed in accordance with the Requirements of the Rules & Appropriate Plans Bureau of Shipping

Hand: 11/1/88

Total: 1/1/88

It is submitted that this report be approved

[Signature]

The report was prepared in accordance with the Rules & Appropriate Plans

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

"Salvage"

10/1/88

11/1/88

10/1/88

11/1/88

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