

No. 1482

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THE BRITISH CORPORATION FOR THE SURVEY

CHA<sup>AND</sup>  
REGISTRY OF SHIPPING.

~~EX~~

Report No. *1446* No. in Register Book *2596*

S.S. "DROMORE"

Makers of Engines *Richardsons Westgarth & Co.*

Works No. *2361*

Makers of Main Boilers *Richardsons Westgarth & Co.*

Works No. *2361*

Makers of Donkey Boiler

Works No.



MACHINERY.

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002750-002753-0042

No. .

THE BRITISH CORPORATION FOR THE SURVEY  
AND  
REGISTRY OF SHIPPING.

Report No. .... No. in Register Book .....

Received at Head Office *20<sup>th</sup> December 1922*

Surveyor's Report on the New Engines, Boilers, and Auxiliary  
Machinery of the <sup>Single Screw</sup> ~~Two Quadruple~~ Screw Steamer.

*Dromore*

Official No. ....

Port of Registry *Liverpool.*

Registered Owners

*Furness Withy & Co Ltd.*

Engines Built by

*Richardson Wigham & Co Ltd.*

at

*Liverpool.*

Main Boilers Built by

*Richardson Wigham & Co Ltd.*

at

*Liverpool.*

Donkey " "

at

Date of Completion

*20-11-20*

First Visit

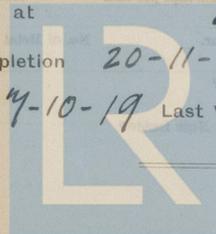
*27-10-19*

Last Visit

*20-11-20*

Total Visits

*85*



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## RECIPROCATING ENGINES.

Works No. *2361* No. of Sets *1* Description *Triple Expansion, S.P. Berke*

No. of Cylinders each Engine *3* No. of Cranks *3*  
 Diars. of Cylinders *26"-43"-43"* Stroke *48"*  
 Cubic feet in each L.P. Cylinder *116.4*

Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cylr.?  
 " " " each Receiver? *ylo.*  
*gys.*

Type of H.P. Valves,

" 1st L.P. "

" 2nd L.P. "

" L.P. "

" Valve Gear

" Condenser

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

Material "

Diars. of Connecting Rods (smallest part) Material

" Crosshead Gudgeons Length of Bearing Material

No. of Crosshead Bolts (each) Diar. over Thrd. Thrds. per Inch Material

" Crank Pin " " " "

" Main Bearings Lengths

" Bolts in each Diar. over Thread Threads per inch Material

" Holding Down Bolts, each Engine Diar. No. of Metal Chocks

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 *18-11-20*

" Trial Trip *20-11-20*

Trials run at *off. Northpool.*

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

If so, what was the I.H.P.? *3000* Revols. per min. *93.*

Pressure in 1st L.P. Receiver, *45* lbs., 2nd L.P., *-* lbs., L.P., *8* lbs., Vacuum, *26.5* ins.

Speed on Trial *no speed taken.*

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

data:—

Builders' estimated I.H.P.

Revol. per min.

Estimated Speed



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## TURBINE ENGINES.

Works No. Type of Turbines  
 No. of H.P. Turbines No. of I.P. No. of L.P. No. of Astern

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

Is Single or Double Reduction Gear employed?

Revol. per min. of H.P. Turbines at Full Power

" " I.P. " "  
 " " L.P. " "  
 " " 1st Reduction Shaft  
 " " 2nd " "  
 " " Propeller Shaft

Total Shaft Horse Power

Date of Harbour Trial

" Trial Trip

Trials run at

Speed on Trial

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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## TURBINE ENGINES

No. of Turbine Engines  
 Type of Turbine Engines  
 Name of Turbine Engines  
 No. of Turbine Engines  
 No. of Turbine Engines

Is the Propeller Shaft driven direct by the Turbine or through gearing?

Is single or double reduction gear employed?

Is the Propeller Shaft driven direct by the Turbine or through gearing?

No. of Turbine Engines

DESCRIPTION OF INSTALLATION

## TURBO-ELECTRIC PROPELLING MACHINERY

No. of Turbo-Electric Units

Type of Turbo-Electric Propellers

Description of Installation

Is the Propeller Shaft driven direct by the Turbo-Electric Unit?

Is single or double reduction gear employed?

Is the Propeller Shaft driven direct by the Turbo-Electric Unit?

No. of Turbo-Electric Units

No. of Motors driving Propeller Shafts

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

Is single or double reduction gear employed?

Description of Installation

Is the Propeller Shaft driven direct by the Turbo-Electric Unit?

No. of Motors

No. of Turbo-Electric Units

No. of Turbo-Electric Units



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## 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

Revs. per min. of Generators at Full Power

" " Motors "

" " Propellers "

Total Shaft Horse Power "

Date of Harbour Trial

" Trial Trip

Trials run at

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



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TRANS SHATTING

See the Great States Book Co. (Sells)			
No. of Length in inch	Length of Chain		
Line by inch	to Way of Water		
" of Chain inch	Length between Water		
Distance Water to Chain Water	Distance		
Line			
Line of Edge in Chain Water	Length		
" Down in Chain Water	Distance to Chain		
No. of Hole each Coupling	Line of Hole Chain		
Distance between Hole of Hole between Chain			
Type of Trans Chain			
No. of Hole			
Line of Trans Hole at bottom of Chain	No. of Chain		
Forward Coupling	At All Coupling		
Line of Intermediate Shattling Chain	No. of Length		
No. of Hole each Coupling	Line of Hole Chain		
Line of Hole Chain	At Coupling		

*Handwritten note:* 1/2

*Handwritten note:* 3/4

*Handwritten note:* 1/2

*Handwritten note:* 1/2



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No. of Blades each Propeller

Fitted or Solid?

Material of Blades

Boss

Diam. 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 ,,

*Same as s/s "Rovermore"*

## STAMP MARKS ON SHAFTS.

Crank Shaft.

BC.  
N<sup>o</sup> 7302  
12-7-20  
J. D. S.

Thrust + 6 Intermediate  
Shafts.

B. G.  
N<sup>o</sup> 7314  
1-10-20  
J. D. S.

Tail Shaft (working)

B. C.  
N<sup>o</sup> 3510  
1-7-20  
J. D. S.

Tail Shaft (shae)

B. C.  
N<sup>o</sup> 3511  
16-7-20  
B. H.

## SKETCH OF PROPELLER SHAFT.



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## BOILERS.

Works No. 2361.

No. of Boilers 3 Type *Cylindrical multitubular.*

Single or Double-ended *single*

No. of Furnaces in each 3

Type of Furnaces *Slighton*

Date when Plan approved *11-9-19.*

Approved Working Pressure *180 lbs.*

Hydraulic Test Pressure *320 "*

Date of Hydraulic Test *8-4-20*

„ when Safety Valves set *18-11-20*

Pressure at which Valves were set *185 lbs.*

Date of Accumulation Test *18-11-20*

Maximum Pressure under Accumulation Test *195 lbs.*

System of Draught *Newden's C.A.*

Can Boilers be worked separately? *Yls.*

Makers of Plates *Wm. Cheace Sons.*

„ Stay Bars *do*

„ Rivets *R. B. & Int. Co.*

„ Furnaces *Thos. Piggott Sons.*

Greatest Internal Diam. of Boilers *15'-9"*

„ „ Length „ *12'-0"*

Square Feet of Heating Surface each Boiler *2824.6*

„ „ Grate „ „ *62.55*

No. of Safety Valves each Boiler 2 *Diar. 4"*

Are the Safety Valves fitted with Easing Gear? *Yls.*

No. of Pressure Gauges, each Boiler 2

„ Test Cocks „ 3

No. of Water Gauges 1

„ Sallnometer Cocks 1



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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



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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

*Same as sp. "Pulleys"*

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



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 "

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.C. Tops

*Same as sp's Bulmore*

Diars of stays approved Threads per inch

" " in Boilers

Material

Thickness of Combustion Chamber Ends Approved

" " " " in Boilers

Pitch of screw stays in C.C. tops

Diars " Approved

" " in Boilers

Material

Thickness of Combustion Chamber Backs Approved

" " " " in Boilers

Pitch of screw stays in C.C. backs

Diars " Approved

" " in Boilers

Material

Thickness of Combustion Chamber Heads

" " " " in Boilers

No. of Girders over each Wing Girder

Depth and Thickness

Material of Girders

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*Handwritten notes and a large diagonal line across the page.*

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.O. Sides

Diar. " " Approved Threads per Inch

" " " in Boilers

Material " "

Thickness of Combustion Chamber Backs Approved

" " " in Boilers

Pitch of Screwed Stays in C.O. Backs

Diar. " " Approved Threads per Inch

" " " in Boilers

Material " "

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

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

*Done as per "Dulmore"*

VERTICAL DONKEY BOILERS

Vertical Donkey Boilers  
 No. of Boilers  
 Type  
 Diameter of Tube  
 Height  
 Thickness of Plate  
 Description of Boilers  
 No. of Girders  
 Material  
 No. of Tubes  
 Size of Lower Manholes  
 No. of Stays in each  
 Material of Girders  
 Depth and Thickness of Girders  
 No. of Girders over each Wing Chamber  
 " " " Centre  
 Thickness of Combustion Chamber Bottoms  
 Are all Screwed Stays fitted with Nuts inside C.O.?  
 Pitch of Screwed Stays in C.O. Backs  
 Diar. " " Approved Threads per Inch  
 " " " in Boilers  
 Material " "

SUPERHEATERS

Superheaters  
 Description of Superheaters  
 No. of Tubes  
 Size of Lower Manholes  
 No. of Stays in each  
 Material of Girders  
 Depth and Thickness of Girders  
 No. of Girders over each Wing Chamber  
 " " " Centre  
 Thickness of Combustion Chamber Bottoms  
 Are all Screwed Stays fitted with Nuts inside C.O.?  
 Pitch of Screwed Stays in C.O. Backs  
 Diar. " " Approved Threads per Inch  
 " " " in Boilers  
 Material " "



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## MAIN STEAM PIPES.

No. of Lengths

Material

Brazed, Welded or Seamless

Internal Diam.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

24  
 W. I.  
 Lap welded.  
 4 7/8"  
 5/16"  
 Screwed / welded.  
 12-10-20  
 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



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## EVAPORATORS.

No. 1 Type *Monicon* Tons per Day *25*  
 Makers *R.W. Co. Khaal*  
 Working Pressure *10 lbs.* Test Pressure *Body 50 lbs. Cils 400* Date of Test *23-9-20*  
 Date of Test of Safety Valves under Steam *18-11-20*

## FEED WATER HEATERS.

No. 1 Type *Compensator Simplex*  
 Makers *R.W. Co. Khaal*  
 Working Pressure *10 lbs.* Test Pressure *Body 50 lbs. Cils 432* Date of Test *13-9-20*

## FEED WATER FILTERS.

No. 1 Type *Cascade Gravitation* Size *no 5*  
 Makers *R.W. Co. Khaal*  
 Working Pressure Test Pressure Date of Test

## LIST OF DONKEY PUMPS.

*Same as sp. "Amenora"*



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## SPARE GEAR LIST

No. of Top End Bolts.	No. of Bot. End Bolts.	No. of Cylinder Cover Studs
" Coupling Bolts	" Main Bearing Bolts	" Valve Chest "
" Junk Ring Bolts	" Feed Pump Valves	" Bilge Pump Valves
" H.P. Piston Rings	" I.P. Piston Rings	" L.P. Piston Rings
" " Springs	" " Springs	" " Springs
" Safety Valve "	" Fire Bars	" Feed Check Valves
" Piston Rods	" Connecting Rods	" Valve Spindles
" Air Pump Rods	" Air Pump Buckets	" Air Pump Valves
" Cir. "	" Crank Pin Bushes	" Cir. "
" Crank Shafts	" Propellers	" Crosshead Bushes
" Propeller Shafts	" Condenser Tubes	" Propeller Blades
" Boiler Tubes		" Condenser Ferrules

OTHER ARTICLES OF SPARE GEAR:—

*Same as sp. Reserve*



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## ELECTRIC LIGHTING.

Installation Fitted by *Campbell + Isherwood Ltd.*  
 No. and Description of Dynamos *2, 15 K.W. + 1/2 " K.W. Compound wound*  
 Makers of Dynamos *Campbell + Isherwood Ltd. H. Hale & Co. L.*  
 Capacity .. *150 + 75* Amperes, at *100* Volts, *400, 425* Revols. per Min.  
 Current Alternating or Continuous *Continuous*  
 Single or Double Wire System *double.*  
 Position of Dynamos *Engine Room Starting platform*  
 .. Main Switch Board ..  
 No. of Circuits to which Switches are provided on Main Switch Board *six.*

Particulars of these Circuits:—

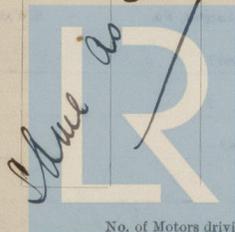
Circuit.	Number of Lights.	Candle Power.	Current Required, Amps.	Size of Conductor.	Current Density.	Conductivity of Conductor.	Insulation Resistance per Mile.
<i>Value as per "Numerals"</i>							

Total No. of Lights

No. of Motors driving Fans, &amp;c.

No. of Heaters

Current required for Motors and Heaters



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

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?

Ohms.

Is the Installation supplied with a Voltmeter?

" " " an Ampere Meter?

Date of Trial of complete Installation 19-11-20

Duration of Trial

Plus.



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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? *y/so.*

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

Surveyor.

Are the Materials used in the Construction of Engines and Boilers, so far as could be seen sound and trustworthy? *y/so.*

Is the Workmanship throughout thoroughly satisfactory? *y/so.*

The above correctly describes the Machinery of the S.S. "Dromore"

as ascertained by <sup>me</sup> from personal examination

*J. D. Stephenson*

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

## Fees—

MAIN BOILERS.		£	s.	d.
H.S.	<i>8473.9</i> Sq. ft.	:	:	:
G.S.	<i>184.65</i> "	:	:	:
DONKEY BOILERS.				
H.S.	✓ Sq. ft.	:	:	:
G.S.	✓ "	:	:	:
		£	:	:
ENGINES.				
L.P.C.	<i>116.4</i> Cub. ft.	:	:	:
		£	:	:
Testing, &c. ...		:	:	:
		£	:	:
Expenses ...		:	:	:
Total ...		£	:	:

It is submitted that this Report be approved,

*Chief Surveyor.*

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

Fees advised

Fees paid



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Secretary.



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