

No. 1487

TRANSFERRED TO
L.R. SYSTEM

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

*N/N
Lancaster*

RETAIN

Report No. *1344* No. in Register Book *2278*

Now "WESTERN COAST"

Lady Patricia *Lady Emerald*
Mar Loven *Mar Spey* *Mar Garry*

S.S. *Dundee*

Cortes

Mar Wensau
Makers of Engines

Mar Marteneey

Baldwin 51660th Ed.

Works No.

465, 466, 467, 468-469

Makers of Main Boilers

See Page 145

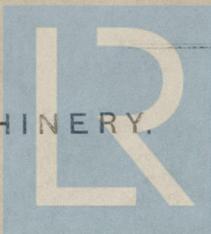
Works No.

Makers of Donkey Boiler

None?

Works No.

MACHINERY.



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004184-004193-0080

No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. *1344* No. in Register Book *2278*

Received at Head Office.....

Surveyor's Report on the *Single Triple* *Secret* *War* *Leven*
Machinery of the *Twin Quadruple*

Official No.

Port of Registry

Registered Owners

Engines Built by

The Caledon S/B & Eng Co

at

Dunceel

Main Boilers Built by

The Caledon S/B & Eng Co

at

Dunceel

Donkey

*For allocation of Machinery
for other ships See Page 45*

Date of Completion

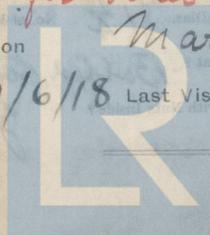
March 2021

First Visit

10/6/18

Last Visit

17-3-19 Total Visits *57*



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RECIPROCATING ENGINES.

Works No. **465** No. of Sets **1** Description **Triple expansion****Surface Condensing**No. of Cylinders each Engine **3** No. of Cranks **3**
Diars. of Cylinders **21 x 34 x 56** Stroke **39**
Cubic feet in each L.P. Cylinder **555.6**

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

Yes

" " " each Receiver?

Yes

Type of H.P. Valves,

Piston

" 1st L.P. "

Martin Andrews.

" 2nd L.P. "

" L.P. "

Slide

" Valve Gear

Stephenson Link" Condenser **Cylindrical, Surface.** Cooling Surface **2303** sq. ft.Diameter of Piston Rods (plain part) **5 1/2"** Screwed part (bottom of thread) **4 1/4"**Material " **Steel**Diar. of Connecting Rods (smallest part) **5 1/2"** Material **Steel**" Crosshead Gudgeons **6 1/4"** Length of Bearing **7 1/8** Material **Steel**No. of Crosshead Bolts (each) **4** Diar. over Thrd. **2 1/2** Thrds. per inch **6** Material **Steel**" Crank Pin " " **2** " **3 1/4** " **6** " **Steel**" Main Bearings **6** Lengths **12 1/2"**" Bolts in each **2** Diar. over Thread **2 1/2** Threads per inch **6** Material **Steel**" Holding Down Bolts, each Engine **75** Diar. **1 1/4"** No. of Metal Chocks **75**

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

Bolted to Tank Top

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

YesIf not, how are they fitted? Connecting Rods, Forged by **M. Hingley & Sons, Dudley.**

Piston " "

Crossheads, " **Wm Somers & Coy Ltd Halesowen.**Connecting Rods, Finished by **The Caledon S&B Coy.**

Piston " "

DoCrossheads, " **465** **Do** **466** **467** **468.** **469.** Eng NoDate of Harbour Trial **14-3-19, 18-4-19 16-5-19, 18-6-19 22/7/19**" Trial Trip **15-3-19 22-4-19 21-5-19, 20-6-19 24/7/19**Trials run at **Dumfries**

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

(Mean) (Mean) (Mean) (Mean) Yes.If so, what was the I.H.P.? **1740. 1621. 1933. 2031** Revols. per min. **106, 103, 107.**Pressure in 1st L.P. Receiver, lbs., 2nd L.P., **64** lbs., L.P., **12** lbs., Vacuum, **27.5** ins. **11**Speed on Trial **13.91** **12.85** **13.3** **7.5** **11** **28**
14.8 **7.5** **14** **26**

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

data:—

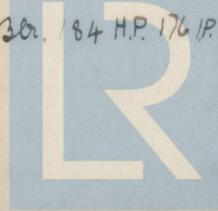
Builders' estimated I.H.P. **1620** Revols. per min. **106.**Estimated Speed **12 Knots.**Eng 465 Entered in **Blue.**Eng 466 Entered in **Red.**Eng 467 Entered in **Black.**Eng 468 Entered in **?**

Eng 469 I.H.P. 1937.6. Revs per min 110

Pressures 130. 185 H.P. 175 I.P. 69 L.P. 35 YAC 27' MEAN SPEED. 13.43

Engines No 515 built by **Dunsmuir & Jackson.**

Pressures 130. 184 H.P. 176 I.P. 73 L.P. 12 YAC 26" speed 12.57 Revs 108

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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?

Revs. 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 ENGINE

No. of Turbine
No. of H.P. Turbine
No. of H.P. Turbine
No. of H.P. Turbine

Are the Propeller Shafts driven direct by the Turbine or through Gearings?

In detail in Double Reduction Gear working with?

Basic pattern of H.P. Turbine at full speed

In Turbine Shaft

Total shaft Horse Power

Date of Exhaust Trial

Test run at

Test run at

Turbine shafts tested by

Which tested or used by

Reduction Gear shafts tested by

Which tested or used by

DESCRIPTION OF INSTALLATION

TURBO-ELECTRIC PROPELLING MACHINERY

No. of Turbo-Compressor Fans
Capacity of each

Type of Turbine engine

Description of Gearings

Are the Propeller Shafts driven direct by the Motor or through Gearings?

In detail in Double Reduction Gear working with?

Basic pattern of H.P. Turbine at full speed

In Turbine Shaft

Total shaft Horse Power

Are the Propeller Shafts driven direct by the Motor or through Gearings?

In detail in Double Reduction Gear working with?

Description of Motor

Basic pattern of H.P. Turbine at full speed

Total shaft Horse Power

Date of Exhaust Trial

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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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SHAFTING.

Are the Crank Shafts Built or Solid? *Built*

No. of Lengths in each *5* Angle of Cranks *120°*

Diar. by Rule *10-9"* Actual *11 1/2"* In Way of Webs *11 1/2"*

" of Crank Pins *11 1/2"* Length between Webs *13 3/4"*

Greatest Width of Crank Webs *20 3/4"* Thickness *8"*

Least " " *20 3/4"* " *8*

Diar. of Keys in Crank Webs *1/4 Screwed* Length *5*

" Dowels in Crank Pins *1 3/4* Length *5* Screwed or Plain *Plain*

No. of Bolts each Coupling *6* Diar. at Mid Length *2 3/4"* Diar. of Pitch Circle *17"*

Greatest Distance from Edge of Main Bearing to Crank Web *3/8"*

Type of Thrust Blocks

Horse Shoe Type

No. " Rings

Six

Diar. of Thrust Shafts at bottom of Collars *11 1/2"* No. of Collars *6*

" " Forward Coupling *11 1/2"* At Aft Coupling *11 1/2"*

Diar. of Intermediate Shafting by Rule *10.35"* Actual *11* No. of Lengths *3*

No. of Bolts, each Coupling *6* Diar. at Mid Length *2 3/4"* Diar. of Pitch Circle *17*

Diar. of Propeller Shafts by Rule *11.38"* Actual *12* At Couplings *12 1/8"*

Are Propeller Shafts fitted with Continuous Brass Liners?

yes

Diar. over Liners

13 1/2"

Length of After Bearings

4'-0 3/4"

Of what Material are the After Bearings composed?

Lignum Vitae

Are Means provided for lubricating the After Bearings with Oil?

no

" " to prevent Sea Water entering the Stern Tubes?

no

If so, what Type is adopted?

✓

SKETCH OF CRANK SHAFT.

Sketch of Crank Shaft

120°

11 1/2"

13 3/4"

8"

8

5

Plain

17"

3/8"

Horse Shoe Type

Six

11 1/2"

6

11 1/2"

11 1/2"

6

11

3

17

12 1/8"

yes

13 1/2"

4'-0 3/4"

Lignum Vitae

no

no

✓



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No. of Blades each Propeller *4* Fitted or Solid? *Solid*
 Material of Blades *Cast Iron* Boss *Cast Iron*
 Diam. of Propellers *14'-0"* Pitch *13'-0"* Surface (each) *58.6* S. ft.
 Coefficient of Displacement of Vessel at $\frac{3}{4}$ Moulded Depth *.6495*

Crank Shafts Forged by *Wm Somers & Coy Ltd Helleson* Material *S.M. Steel*
 " Pins " *do* " *do*
 " Webs " *Stewarts & Lloyds Glasgow* " *do*
 Thrust Shafts " *Denny Stown Forge* " *do*
 Interned. " " *do* " *do*
 Propeller " " *Wm Somers & Coy Ltd Helleson* *Steel*
 Crank " Finished by *The Caledon SB Coy Dundee*
 Thrust " " *do*
 Interned. " " *do*
 Propeller " " *do*

STAMP MARKS ON SHAFTS.

465	466	467	468
B.C.	B.C.	B.C.	B.C.
Nº 3018	Nº 5603	Nº 5608	Nº 5614
B.D.	T.L.	T.L.	T.L.
29/11/18	29/1/19	7/3/19	3/4/19
469	470	471	472
B.C.	B.C.		
Nº 5615	5620		
T.L.	T.L.		
29.4.19	5-6-19		

SKETCH OF PROPELLER SHAFT.

Handwritten sketches and notes on the right page, including a diagram of a propeller shaft and various annotations.



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PUMPS, ETC.

No. of Air Pumps / Edwards Diar. 20 $\frac{1}{2}$ " Stroke 20"

Worked by Main or Independent Engines? Main

No. of Circulating Pumps One Diar. Stroke
Type of " Centrifugal Daysdale 8" + 6" + 11"
Diar. of " Suction from Sea

Has each Pump a Bilge Suction with Non-return Valve? Yes. Diar. 11"

What other Pumps can circulate through Condenser? Ballast & General Service

No. of Feed Pumps on Main Engine 2 Diar. 3 $\frac{1}{2}$ " Stroke 20

Are Spring-loaded Relief Valves fitted to each Pump? Yes

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

No. of Independent Feed Pumps Water Pair Diar. 9 $\frac{1}{2}$ " + 7" Stroke 18"

What other Pumps can feed the Boilers? General Service

No. of Bilge Pumps on Main Engine 2 Diar. 3 $\frac{1}{2}$ " Stroke 20

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

(No. of Independent Bilge Pumps) none (General Service 8" + 5" + 8")

What other Pumps can draw from the Bilges? Ballast - Lament 8" + 9" + 8"

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



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BOILERS.

Works No. **465**
 No. of Boilers **2** Type **Scottish Return Tube**
 Single or Double-ended **Single**
 No. of Furnaces in each **3**
 Type of Furnaces **Deighton Section**
 Date when Plan approved
 Approved Working Pressure **185 lbs. □**
 Hydraulic Test Pressure **370 lbs. □**
 Date of Hydraulic Test **4-2-19.**
 „ when Safety Valves set **11-3-19**
 Pressure at which Valves were set **185 lbs**
 Date of Accumulation Test **11-3-19**
 Maximum Pressure under Accumulation Test **190**
 System of Draught **Natural**
 Can Boilers be worked separately? **Yes**
 Makers of Plates **D. Colville & Son (Shell Plates)**
John Spencer. (Wrappers Plates)
 „ Stay Bars **D. Colville & Son**
 „ Rivets **Rivet Bolt & Nut Coy**
 „ Furnaces **Deighton Patent Flue & Tube Coy Ltd**
 Greatest Internal Diam. of Boiler **15'-9"**
 „ „ Length „ **13'-6" (Mean)**
 Square Feet of Heating Surface each Boiler **2566 sq**
 „ „ Grate „ „ **72 sq**
 No. of Safety Valves each Boiler **1 Pair** Diam. **3 1/4"**
 Are the Safety Valves fitted with Easing Gear? **Yes**
 No. of Pressure Gauges, each Boiler **1** No. of Water Gauges **2**
 „ Test Cocks „ **None** „ Salmometer Cocks **1**

466 & 468
2. Scottish Return Tube.
Single
3 Furnaces With 2 Cyls.
Morrison Withdrawable

180 lbs □
360 " "
20-12-18
18-4-19
180 lbs.
18-4-19
192 lbs.
Natural
Yes

Plain Boilers
15'-6"
12'-0"
2620 sq
61.75
1-3 1/2



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ENDS

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

Direct

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

Are these Pipes connected to Boilers by Cocks or Valves? ✓

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

Valves

No. of Strakes of Shell Plating in each Boiler

3

Plates in each Strake

1

Thickness of Shell Plates Approved

1/32"

" " in Boilers

1/32"

Are the Rivets Iron or Steel?

Iron

Are the Longitudinal Seams Butt or Lap Joints?

Butt

Are the Butt Straps Single or Double?

Double

Are the Double Butt Straps of equal width?

Yes

Thickness of outside Butt Straps

1/8"

" inside "

1/8"

Are Longitudinal Seams Hand or Machine Riveted?

Machine

Are they Single, Double, or Treble Riveted?

Treble

No. of Rivets in a Pitch

5

Diar. of Rivet Holes 1 1/2" Pitch

10 7/16"

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

2

Are these Seams Hand or Machine riveted?

Machine

Diar. of Rivet Holes 1 1/2" Pitch

10 7/16"

No. of Rows of Rivets in Back End Circumferential Seams

2

Are these Seams Hand or Machine Riveted?

Machine

Diar. of Rivet Holes 1 1/2" Pitch

10 7/16"

Size of Manholes in Shell 16" x 12"

Dimensions of Compensating Rings 11" Flange + 1 1/16" Thick



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Thickness of End Plates in Steam Space Approved

$$\frac{3}{32}$$

$$\frac{3/16}{32}$$

" " " " " in Boilers

Pitch of Steam Space Stays

 $15\frac{1}{2}'' + 15\frac{1}{4}''$
Diar. " " " " Approved $2\frac{3}{4}$ Threads per Inch 6" " " " " in Boilers $2\frac{3}{4}$ " 6

Material of " " "

Steel

How are Stays Secured?

Double Nuts & Washers

Diar. and Thickness of Loose Washers on End Plates Dia $8\frac{1}{4}''$ & $\frac{1}{16}$ Thick

" " Riveted " " " Loose

Width " " Doubling Strips Local in Way of Manhole $2'2\frac{1}{2}'' \times 2'5''$

Thickness of Middle Back End Plates Approved

 $\frac{27}{32}$

" " " " " in Boilers

 $\frac{27}{32}$

Thickness of Doublings in Wide Spaces between Fireboxes

None

Pitch of Stays at

 $13\frac{3}{4}'' \times 8\frac{1}{4}''$
Diar. of Stays Approved $1\frac{3}{4}''$ Threads per Inch 9" " in Boilers $1\frac{3}{4}''$ " 9

Material " 26-30 Low Steel

Are Stays fitted with Nuts outside?

Yes

Thickness of Back End Plates at Bottom Approved

 $\frac{27}{32}$

" " " " " in Boilers

 $\frac{27}{32}$

Pitch of Stays at Wide Spaces between Fireboxes

 $13\frac{3}{4}'' \times 8\frac{1}{4}''$

Thickness of Doublings in

None

Thickness of Front End Plates at Bottom Approved

 $\frac{7}{8}''$

" " " " " in Boilers

 $\frac{7}{8}''$

No. of Longitudinal Stays in Spaces between Furnaces

None Fitted



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Diar. of Screwed Stays Approved $1\frac{5}{8}$ " Threads per Inch 9
 " " " in Boilers $1\frac{5}{8}$ " 9
 Material " " Steel

Thickness of Combustion Chamber Sides Approved $\frac{5}{8}$ "
 " " " in Boilers $\frac{5}{8}$ "
 Pitch of Screwed Stays in C.O. Sides $8\frac{1}{2}$ " + 8 "
 Diar. " " Approved $1\frac{5}{8}$ " Threads per Inch 9
 " " " in Boilers $1\frac{5}{8}$ "
 Material " " Steel

Thickness of Combustion Chamber Backs Approved $\frac{5}{8}$ "
 " " " in Boilers $\frac{5}{8}$ "
 Pitch of Screwed Stays in C.O. Backs $7\frac{3}{4}$ " + $8\frac{1}{2}$ "
 Diar. " " Approved $1\frac{5}{8}$ " Threads per Inch 9
 " " " in Boilers $1\frac{5}{8}$ " 9
 Material " " Steel

Are all Screwed Stays fitted with Nuts inside O.O.? $2\frac{1}{32}$ " Yes.

Thickness of Combustion Chamber Bottoms $2\frac{1}{32}$ "
 No. of Girders over each Wing Chamber 5
 " " " Centre " 4
 Depth and Thickness of Girders $11\frac{1}{4}$ "
 Material of Girders Steel
 No. of Stays in each 4
 No. of Tubes, each Boiler 170 Plain 95 Stay
 Size of Lower Manholes $16" \times 12"$

BOILER TEST MARKS. BOILER NOS

465	466	467	468
N ^o 2741	N ^o 2744	N ^o 2745	2747
370 lbs	370 lbs	330 LBS.	330 lbs.
J.M.P.	T.L.	T.L.	T.L.
4/2/19	28/3/19	3/5/19	21/6/19
469	470	471	472
N ^o 2749			
330 lbs.			
J.F.			
21/7/19			

For allocation of Boilers See Page 45



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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

Are " " fitted with Easing Gear?

Date of Hydraulic Test

Date when Safety Valves set

Diar.

Test Pressure

Pressure on Valves



MAIN STEAM PIPES.

No. of Lengths	465 3	467 3
Material	S. D. Copper	L. W. Iron
Brazed, Welded or Seamless	Seamless	Lap Welded
Internal Diam.	5 1/2"	5 1/2"
Thickness	5 W. G.	1/4"
How are Flanges secured?	Brazed	Screw & Expansion
Date of Hydraulic Test	25-2-19	
Test Pressure	370 lbs.	
Makers	TL	TL
	ENGINE N° 466	X
No. of Lengths	3	
Material	S. D. Copper	
Brazed, Welded or Seamless	Seamless	
Internal Diam.	5 1/2"	
Thickness	4 W. G.	
How are Flanges secured?	Brazed	
Date of Hydraulic Test	26/3/19	
Test Pressure	J.M.P. 400 lbs	
	⊗ Engine 468	8 469
No. of Lengths	3	3
Material	S. D. Copper	S. D. Copper
Brazed, Welded or Seamless	Seamless	Seamless
Internal Diam.	5 1/2"	5 1/2"
Thickness	4 W. G.	4 W. G.
How are Flanges secured?	Brazed	Brazed
Date of Hydraulic Test	30/5/19	16/7/19
Test Pressure	T.L. 370 lbs.	370 lbs. T.L.

Lested 31

⊗	Made by	Finished by
465	The Broughton Copper Coy.	The Caledon S/B Coy.
467	Stewarts & Lloyds	Stewarts & Lloyds
466	The Broughton Copper Coy.	The Caledon S/B Coy.
468	The Broughton Copper Coy.	The Caledon S/B Coy.
469	do	do

47



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EVAPORATORS.

No. *None* Type *None* Tons per Day *✓*
 Makers *✓*
 Working Pressure *✓* Test Pressure *✗* Date of Test *✓*
 Date of Test of Safety Valves under Steam *✓*

Ships S/S Cates 269 Weirs Evaporator
Ships S/S Calderon 271 " "

FEED WATER HEATERS.

No. *None* Type *Weirs Contact*
 Makers *J & G. Weir Glasgow*
 Working Pressure *40* Test Pressure *40* Date of Test *10/2/19*

FEED WATER FILTERS.

No. *None* Type *Jute Frames* Size *4'-0" x 2'-0"*
 Makers *The Calderon S/S & Eng Coy.*
 Working Pressure *No Pressure* Test Pressure *Suction* Date of Test

LIST OF DONKEY PUMPS.

No.	Type	Capacity	Pressure	Date of Test
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

2 donkey pumps for boiler feed water
(one for each boiler)



LIST OF SPARE GEAR.

No. of Top End Bolts.	2	No. of Bot. End Bolts.	2	No. of Cylinder Cover Studs	6
" Coupling Bolts	1 Set (6 off)	Main Bearing Bolts	2	" Valve Chest "	6
" Junk Ring Bolts	12	" Feed Pump Valves	1 Set	" Bilge Pump Valves	1 Set
" H.P. Piston Rings	✓	" I.P. Piston Rings	✓	" L.P. Piston Rings	✓
" " Springs	✓	" " Springs	✓	" " Springs	✓
" Safety Valve "	1	" Fire Bars	75	" Feed Check Valves	1 MAIN / 1 AUX.
" Piston Rods	✓	" Connecting Rods	✓	" Valve Spindles	✓
" Air Pump Rods	✓	" Air Pump Buckets	✓	" Air Pump Valves	1 Set (HEAD)
" Cir. "	✓	" Cir. "	✓	" Cir. "	✓
" Crank Shafts	✓	" Crank Pin Bushes	✓	" Crosshead Bushes	✓
" Propeller Shafts	✓	" Propellers	✓	" Propeller Blades	✓
" Boiler Tubes	12	" Condenser Tubes	✓	" Condenser Ferrules	16

OTHER ARTICLES OF SPARE GEAR:—

2 Feed Pump Escape Valve Springs
 29 Double Fire bars. in place of 75 (was Spay)

REFRIGERATORS



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

Are Out-outs fitted as follows?—	Number of Out-outs	Number of Switches	Number of Cables	Number of Wires	Number of Conduits	Number of Boxes	Number of Trunks	Number of Pipes	Number of Channels
On Main Switch Board, to Cables of Main Circuits	11	18	10	10	10	10	10	10	10
On Aux. " " each Auxiliary Circuit	11	18	10	10	10	10	10	10	10
Wherever a Cable is reduced in size	11	18	10	10	10	10	10	10	10
To each Lamp Circuit	11	18	10	10	10	10	10	10	10
To both Flow and Return Wires of all Circuits when the Double-Wire System is adopted	11	18	10	10	10	10	10	10	10
Are the Fuses of Standard Sizes?	Standard fuse wire used.								
Are all Switches and Out-outs constructed of Non-inflammable Material?	yes								
Are they placed so as to be always and easily accessible?	yes								
Smallest Single Wire used, No.	1/17	S.W.G.,	Largest, No.	1/14	S.W.G.				
How are Conductors in Engine and Boiler Spaces protected?	Armoured & Braided								
" " Saloons, State Rooms, &c., " ?	Lead covered								
What special protection is provided in the following cases?—									
(1) Conductors exposed to Heat or Damp	Armoured & Braided								
(2) " " passing through Bunkers or Cargo Spaces	Do Do								
(3) " " Deck Beams or Bulkheads	Glands.								

Are all Joints in Cables properly soldered and thoroughly Insulated so that the efficiency of the Cables is unimpaired? *no joints*

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

Are all Hull Connections for Single-Wire Systems made with Screws of large Surface? *none*

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

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

Has the Insulation Resistance over the whole system been tested? *yes*

What does the Resistance amount to? *20,000* Ohms.

Is the Installation supplied with a Voltmeter? *yes*

"War "Lumen" an Ampere Meter? *yes*

Date of Trial of complete Installation *15 March 1919.* Duration of Trial *6 hours*

Jno. E. Allaw
Surveyor

note
no wireless installation was fitted at completion, cable only supplied.

"War Spy" - Date of trial of complete installation *29/4/19*
"War Lumen" - " " " " *27/5/19*



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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.

*266 Smaller Boilers supplied from
268 Harland & Wolff for Particulars See
Page 44.*

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. *War. Leven*

as ascertained by *me* from personal examination

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

War Leven *Lady Patricia*
(War Spec)

Fees—

MAIN BOILERS.

	£	s.	d.
H.S. 5132 Sq. ft.	8	8	4
G.S. 72 ft.			

L.R. Blo

DONKEY BOILERS.

H.S.	✓	Sq. ft.	
G.S.	✓		

ENGINES.

L.P.C. 55.6 Cub. ft.	25	5	0
	£	↓	↓

25.5.0

Testing, &c.

Expenses

Total ... £ *33 : 13 : 4*

25.5.0

It is submitted that this Report be approved,

Thos. King
Chief Surveyor.

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

1919.

14th May

Fees advised

Fees paid



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SECRET

Boiler Test marks for War Spuy & War Wensum

*

No 537

LLOYDS TEST.

360 LBS.

R.J.B 20/12/19

Boilers by Harold & Wolff.

Belfast. Lloyd's Survey.

Diam 15'-6" Length 12'-0"

P.S. 61.75 H.S. 2620 Pressure 180

Tunnaces 3 - 3'-9" Inside Diam (Morison Suspension type)
 Shell 1 3/8" Thick (Ship No 468 Gate Surface 67.5 ft)

Engines No 575 by Dunsinnir & Jackson. Loven.

NAME OF SHIP	YARD NO	EHA NO	BLR NO	BASIN TRIAL	SEA TRIAL	HANDLED OVER	VISITS.		
							1st	LAST	Y
WAR LEVEN.	265	465	465	14-3-19	15-3-19	26/3/19	10/6/18	17/3/19	57.
WAR SPEY	266	466	*	18-4-19	22-4-19	29-4-19	10/6/18	29/4/19	63.
WAY GARRY.	267	467	466	16-5-19	21/5/19	27/5/19	10/4/18	23/5/19	65
WAY WENSUM	268	468	*	18/6/19	20/5/19	7/7/19	10/6/18	17/7/19	69
WAY WAVENEY	269	469	467	18/7/19	22/7/19	24/7/19	10/6/18	24/7/19	72
WAY WET.	270	473	469						
Calderon	271	515	468	18/9/19	25/9/19	27/9/19	10/6/18	25/9/19	75
WAY									

War Spuy crew named Lady Patricia
 War Larry " " Lady Emerald
 War Wensum " " Dundee
 War Wavene " " © 2021
 Calderon



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DATE	NAME	ADDRESS	REMARKS
MAR 26	W. H.
MAR 27
MAR 28
MAR 29
MAR 30
MAR 31
APR 1
APR 2
APR 3
APR 4
APR 5
APR 6
APR 7
APR 8
APR 9
APR 10
APR 11
APR 12
APR 13
APR 14
APR 15
APR 16
APR 17
APR 18
APR 19
APR 20
APR 21
APR 22
APR 23
APR 24
APR 25
APR 26
APR 27
APR 28
APR 29
APR 30

The first of these names is John ...
 the second " " ...
 the third " " ...
 the fourth " " ...
 the fifth " " ...



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