No. 1922

THE BRITISH CORPORATION FOR THE SURVEY AND REGISTRY OF SHIPPING.

Report No. 1496 No. in Register Book 3094

S.S. "BARON MACLAY"

Makers of Engines McKie & Baxter

Works No. 1094

Makers of Main Boilers D. & W. Henderson & Co. Ltd

Works No. 843

Makers of Donkey Boiler

Works No.

MACHINERY.

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Report No. ..... No. in Register Book 3094

Received at Head Office 11th November 1924

Surveyor's Report on the New Engines, Boilers, and Auxiliary Machinery of the Single ~~Triple~~ ~~Twin Quadruple~~ Screw STEAMSHIP

"BARON MACLAY"

Official No. 146718 Port of Registry ARDROSSAN

Registered Owners HOGARTH SHIPPING Co. Ltd

Engines Built by McKIE & BAXTER

at GOVAN. GLASGOW.

Main Boilers Built by D. & W. HENDERSON & Co. Ltd

at GLASGOW.

Donkey " " NONE

at

Date of Completion 1-11-24

First Visit 9-5-23 Last Visit 1-11-24 Total Visits 103

RECIPROCATING ENGINES.

Works No. 1094 No. of Sets ONE Description TRIPLE EXPANSION SURFACE CONDENSING. DIRECT ACTING.

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

Diars. of Cylinders 27", 46", 76" Stroke 48"

Cubic feet in each L.P. Cylinder 126·01

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

" " " each Receiver? ALL EXCEPT L.P. BOTTOM.

Type of H.P. Valves, PISTON

" 1st I.P. " ~~COMMON SLIDE~~ ANDREW & CAMERON

" 2nd I.P. "

" L.P. " DOUBLE PORTED "TRICK"

" Valve Gear STEPHENSON'S LINK MOTION

" Condenser BUILT Cooling Surface 3653 sq. ft.

Diameter of Piston Rods (plain part) 7½" Screwed part (bottom of thread) 5·43"

Material " INGOT STEEL

Diar. of Connecting Rods (smallest part) 7¾" Material Do

" Crosshead Gudgeons 7½" Length of Bearing 6½" Material Do

No. of Crosshead Bolts (each) 4 Diar. over Thrd. 3" Thrds. per inch 6 Material WROT IRON

" Crank Pin " " 2 " 4" " 4 " Do

" Main Bearings 6 Lengths 15"

" Bolts in each 2 Diar. over Thread 3½" Threads per inch 6 Material STEEL

" Holding Down Bolts, each Engine 112 Diar. 1¼" No. of Metal Chocks 116

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 THE DENNYSTONE FORGE Co.

Piston " " Mc KIE & BAXTER

Crossheads, " DITTO

Connecting Rods, Finished by Do.

Piston " " Do.

Crossheads, " Do.

Date of Harbour Trial 17-10-24

" Trial Trip 1-11-24

Trials run at FIRTH OF CLYDE

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

If so, what was the I.H.P.? 2990 (MEAN) Revols. per min. 74 (MEAN)

Pressure in 1st I.P. Receiver, 72 lbs., 2nd I.P., ✓ lbs., L.P., 16 lbs., Vacuum, 26 ins.

Speed on Trial 12·62 KNOTS. (MEAN)

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

Builders' estimated I.H.P. 2750 Revols. per min. 72

Estimated Speed 11 KNOTS

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?

Diar. of 1st Reduction Pinion } Width Pitch of Teeth

" 1st " Wheel

Estimated Pressure per lineal inch

Diar. of 2nd Reduction Pinion } Width Pitch of Teeth

" 2nd " Wheel

Estimated Pressure per lineal inch

Revols. per min. of H.P. Turbines at Full Power S.H.P.

" " 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 Knots. Propeller Revols. per min. S.H.P.

Turbine Spindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

" Wheels forged or cast by

DESCRIPTION OF INSTALLATION.

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

Diar. of 1st Reduction Pinion } Width Pitch of Teeth
" 1st " Wheel

Estimated Pressure per lineal inch

Diar. of 2nd Reduction Pinion } Width Pitch of Teeth
" 2nd " Wheel

Estimated Pressure per lineal inch

Revols. 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 Revols. 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.

SHAFTING.

Are the Crank Shafts Built or Solid ? Built

No. of Lengths in each 3 Angle of Cranks 120°

14·46 (1940)

Diar. by Rule 14·33" Actual 14⅝" In Way of Webs 14¾"

„ of Crank Pins 14⅝" Length between Webs 16"

Greatest Width of Crank Webs 2'-3" Thickness 9¼"

Least „ „ 1'-9¼" „ 9¼"

Diar. of Keys in Crank Webs 2¾" Length 6"

„ Dowels in Crank Pins 1⅜" Length 4" Screwed or Plain Plain

No. of Bolts each Coupling 6 Diar. at Mid Length 3⅝" Diar. of Pitch Circle 22"

Greatest Distance from Edge of Main Bearing to Crank Web ¼"

Type of Thrust Blocks Horseshoe

No. „ Rings 8

Diar. of Thrust Shafts at bottom of Collars 14¾" No. of Collars 8

„ „ Forward Coupling 14⅝" At Aft Coupling 14⅝"

Diar. of Intermediate Shafting by Rule 13·61" Actual 14" No. of Lengths 7

No. of Bolts, each Coupling 6 Diar. at Mid Length 3⅝" Diar. of Pitch Circle 22"

Diar. of Propeller Shafts by Rule 15·9" Actual 16¼" At Couplings 14¾"

Are Propeller Shafts fitted with Continuous Brass Liners ? Yes

Diar. over Liners 18" to 18⅛" Length of After Bearings 5'-6"

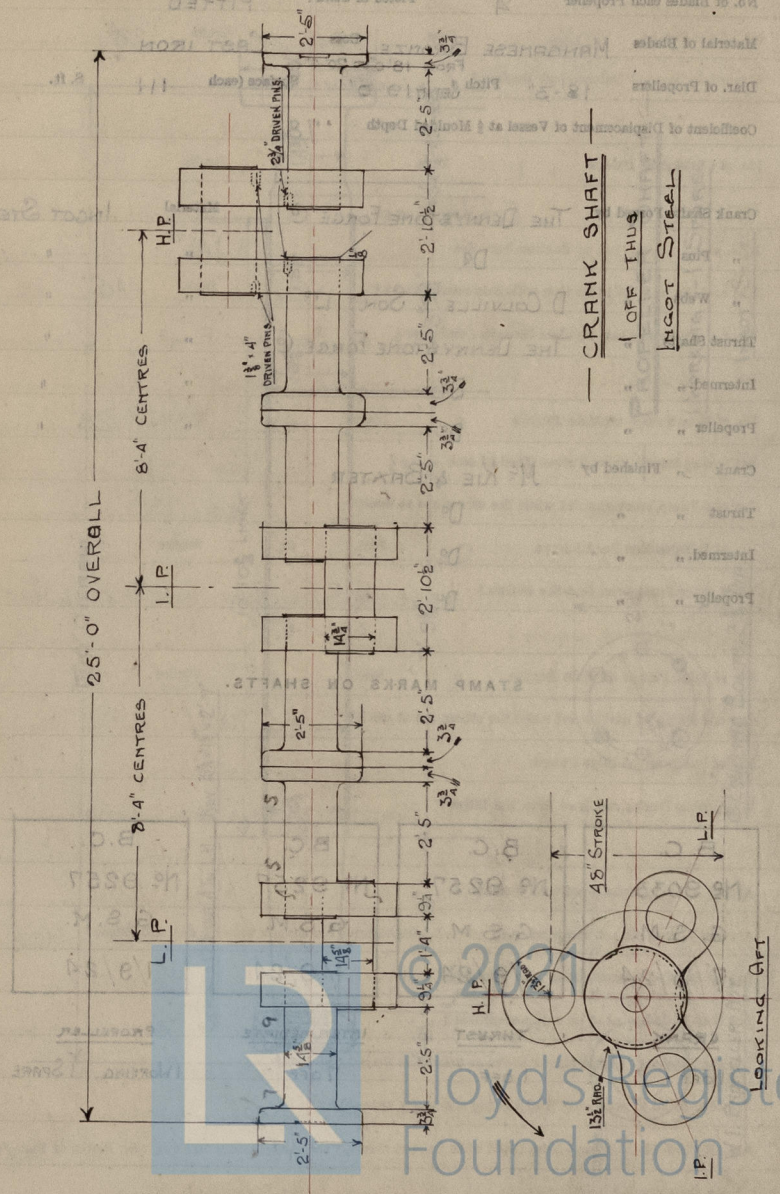
Of what Material are the After Bearings composed ? Brass & Lignumvitæ.

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.



— CRANK SHAFT —
1 OFF THUS
INGOT STEEL

No. of Blades each Propeller 4 Fitted or Solid? FITTED

Material of Blades MANGANESE BRONZE Boss CAST IRON

Diar. of Propellers 18'-3" Pitch FROM 18'-0" TO 20'-0" SET AT 19'-0" Surface (each 111 S. ft.

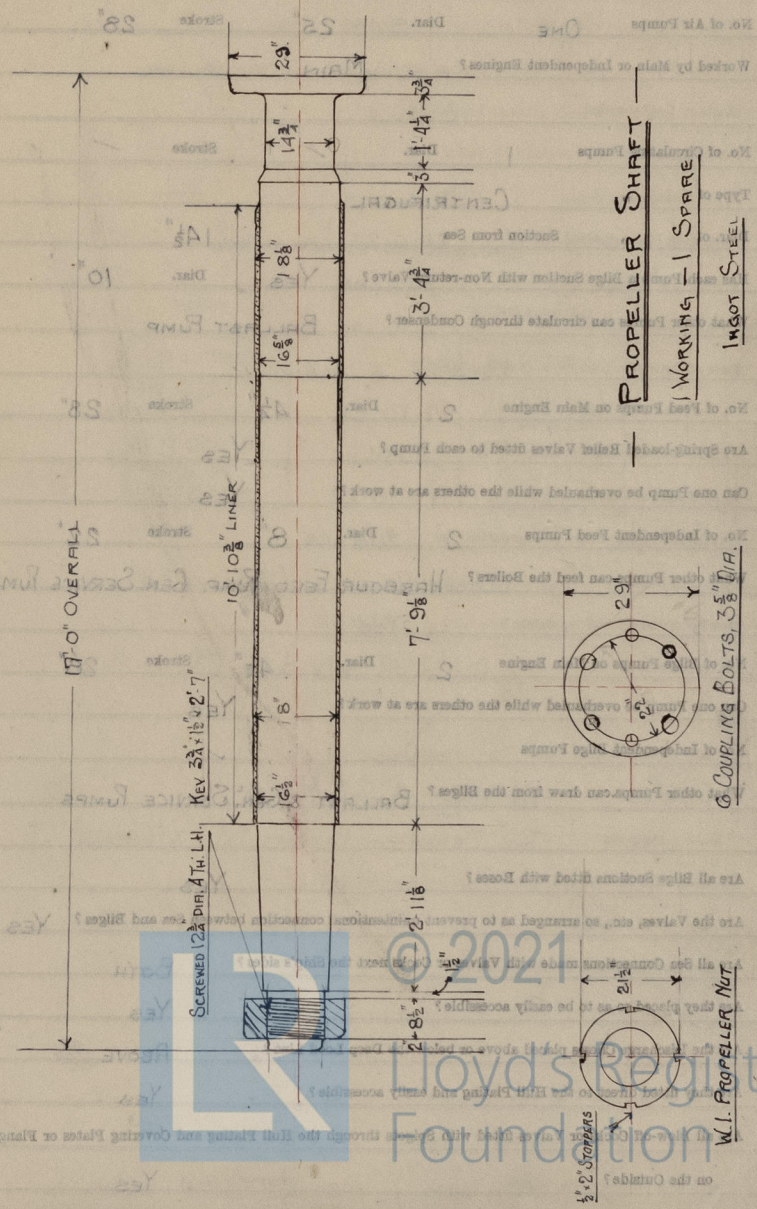
Coefficient of Displacement of Vessel at ⅔ Moulded Depth ·78

Crank Shafts Forged by	THE DENNYSTONE FORGE Co	Material	INGOT STEEL
„ Pins „	Do	„	„
„ Webs „	D. COLVILLE & SON Ltd	„	„
Thrust Shafts „	THE DENNYSTONE FORGE Co	„	„
Intermed. „ „	Do	„	„
Propeller „ „	Do	„	„
Crank „ Finished by	Mc KIE & BAXTER		
Thrust „ „	Do		
Intermed. „ „	Do		
Propeller „ „	Do		

STAMP MARKS ON SHAFTS.

B.C.	B.C.	B.C.	B.C.
No 9033	No 9257	No 9257	No 9257
G.S.M.	G.S.M.	G.S.M.	G.S.M.
7/3/24	1/9/24	1/9/24	1/9/24
CRANK	THRUST	INTERMEDIATE	PROPELLER
1 OFF	1 OFF	7 OFF	1 WORKING. 1 SPARE

SKETCH OF PROPELLER SHAFT.



PUMPS, ETC.

No. of Air Pumps ONE Diar. 25" Stroke 28"

Worked by Main or Independent Engines? MAIN

No. of Circulating Pumps 1 Diar. — Stroke —

Type of " CENTRIFUGAL

Diar. of " Suction from Sea 14½"

Has each Pump a Bilge Suction with Non-return Valve? YES Diar. 10"

What other Pumps can circulate through Condenser? BALLAST PUMP

No. of Feed Pumps on Main Engine 2 Diar. 4¼" Stroke 28"

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 2 Diar. 8" Stroke 22"

What other Pumps can feed the Boilers? HARBOUR FEED PUMP. GEN. SERVICE PUMP

No. of Bilge Pumps on Main Engine 2 Diar. 4½" Stroke 28"

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

No. of Independent Bilge Pumps ✓

What other Pumps can draw from the Bilges? BALLAST & GEN. SERVICE PUMPS

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? BOTH

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.

Works No.	843
No. of Boilers 3 Type	CYLINDRICAL, MULTITUBULAR.
Single or Double-ended	SINGLE
No. of Furnaces in each	3
Type of Furnaces	DEIGHTON
Date when Plan approved	25-6-23
Approved Working Pressure	200 LBS.
Hydraulic Test Pressure	350 LBS.
Date of Hydraulic Test	29-3-24 & 1-4-24
" when Safety Valves set	17-10-24
Pressure at which Valves were set	205 LBS.
Date of Accumulation Test	17-10-24
Maximum Pressure under Accumulation Test	206 LBS.
System of Draught	CLOSED ASHPITS (HOWDEN'S F.D.)
Can Boilers be worked separately?	YES
Makers of Plates	D. COLVILLE & SONS, LTD
" Stay Bars	Do.
" Rivets	THE RIVET, BOLT & NUT Co.
" Furnaces	THE DEIGHTON PATENT FLUE & TUBE Co. LTD
Greatest Internal Diar. of Boilers	16'-3"
" " Length "	12'-0"
Square Feet of Heating Surface each Boiler	2830
" " Grate " "	60

No. of Safety Valves each Boiler 2 Rule Diar. 3¼" Actual 3¼"

Are the Safety Valves fitted with Easing Gear? YES.

No. of Pressure Gauges, each Boiler ONE No. of Water Gauges 2

" Test Cocks " NONE " Salinometer Cocks ONE

STAMP MARKS ON BOILERS

PORT

B. C. TEST
Nº 4701
T.P. 350 Lbs.
W.P. 200 Lbs.
G. S. M.
29/3/24

STARBOARD

B.C. TEST
Nº 4702
T.P. 350 Lbs.
W.P. 200 Lbs.
G. S. M.
1/4/24

CENTRE

B. C. TEST
Nº 4701
T.P. 350 LBS.
W.P. 200 LBS.
G.S.M.
29/3/24

Are the Water Gauges fitted direct to the Boiler Shells or mounted on Pillars?	PILLARS
Are the Water Gauge Pillars fitted direct to the Boiler Shells or connected by Pipes?	1 DIRECT. 1 WITH PIPES
Are these Pipes connected to Boilers by Cocks or Valves?	COCKS.
Are Blow-off Cocks or Valves fitted on Boiler Shells?	VALVES.
No. of Strakes of Shell Plating in each Boiler	1
" Plates in each Strake	3
Thickness of Shell Plates Approved	$1\frac{7}{16}$"
" " in Boilers	$1\frac{7}{16}$"
Are the Rivets Iron or Steel?	STEEL
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	$1\frac{3}{32}$"
" inside "	$1\frac{7}{32}$"
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 $1\frac{1}{2}$" Pitch	$10\frac{1}{8}$"
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?	HAND
Diar. of Rivet Holes $1\frac{1}{2}$" Pitch	$4\frac{1}{4}$"
No. of Rows of Rivets in Back End Circumferential Seams	2
Are these Seams Hand or Machine Riveted?	MACHINE
Diar. of Rivet Holes $1\frac{1}{2}$" Pitch	$4\frac{1}{4}$"
Size of Manholes in Shell	16" × 12"
Dimensions of Compensating Rings	2'-$11\frac{1}{4}$" × 2'-$7\frac{1}{4}$" × $1\frac{7}{16}$"

Thickness of End Plates in Steam Space Approved	$1\frac{7}{16}''$
" " " " " in Boilers	$1\frac{7}{16}''$
Pitch of Steam Space Stays	$1'-10\frac{3}{4}'' \times 1'-11\frac{1}{4}''$
Diar. " " " " Approved $3\frac{3}{4}''$ Threads per Inch	8
" " " " " in Boilers $3\frac{3}{4}''$ "	8
Material of " " "	STEEL
How are Stays Secured ?	DOUBLE NUTS
Diar. and Thickness of Loose Washers on End Plates	$13\frac{1}{8}'' \times 1\frac{1}{32}''$
" " Riveted " " "	✓
Width " " Doubling Strips "	✓
Thickness of Middle Back End Plates Approved	$\frac{29}{32}''$
" " " " " in Boilers	$\frac{7}{8}''$ F.
Thickness of Doublings in Wide Spaces between Fireboxes	✓
Pitch of Stays at " " " "	$8\frac{3}{8}'' \times 8\frac{1}{8}''$
Diar. of Stays Approved $1\frac{5}{8}''$ Threads per Inch	10
" " in Boilers $1\frac{5}{8}''$ "	10
Material "	STEEL
Are Stays fitted with Nuts outside ?	YES
Thickness of Back End Plates at Bottom Approved	$\frac{29}{32}''$
" " " " " in Boilers	$\frac{7}{8}''$ F.
Pitch of Stays at Wide Spaces between Fireboxes	$8\frac{3}{8}'' \times 8\frac{1}{8}''$
Thickness of Doublings in " "	✓
Thickness of Front End Plates at Bottom Approved	$1\frac{1}{32}''$
" " " " " in Boilers	$1\frac{1}{32}''$
No. of Longitudinal Stays in Spaces between Furnaces	3

Diar. of Stays Approved	$2\frac{1}{2}''$	Threads per Inch	8
,, ,, in Boilers	$2\frac{1}{2}''$		8
Material ,,			STEEL

Thickness of Front Tube Plates Approved	$1\frac{1}{32}''$
,, ,, ,, ,, in Boilers	$1\frac{1}{32}''$
Pitch of Stay Tubes at Spaces between Stacks of Tubes	$7\frac{1}{2}''$
Thickness of Doublings in ,, ,, ,,	✓
,, Stay Tubes at ,, ,, ,,	$\frac{3}{8}''$
Are Stay Tubes fitted with Nuts at Front End ?	No

Thickness of Back Tube Plates Approved	$\frac{23}{32}''$
,, ,, ,, in Boilers	$\frac{3}{4}''$ B.
Pitch of Stay Tubes in Back Tube Plates	$7\frac{1}{2}''$ & $11\frac{1}{4}''$
,, Plain ,,	$3\frac{3}{4}''$
Thickness of Stay Tubes	$\frac{5}{16}''$ & $\frac{3}{8}''$
,, Plain ,,	No 8 B.W.G. (·165")
External Diar. of Tubes	$2\frac{1}{2}''$
Material ,,	L.W. WROT IRON

Thickness of Furnace Plates Approved	$\frac{23}{32}''$
,, ,, ,, in Boilers	$\frac{3}{4}''$ B
Smallest outside Diar. of Furnaces	$4'-6\frac{1}{8}''$
Length between Tube Plates	$8'-0''$

Width of Combustion Chambers (Front to Back)	$3'-2''$ OUTSIDE PLATES
Thickness of ,, ,, Tops Approved	$\frac{5}{8}''$
,, ,, ,, in Boilers	$\frac{5}{8}''$
Pitch of Screwed Stays in C.C. Tops	$8\frac{1}{8}''$

Diar. of Screwed Stays Approved	$1\frac{5}{8}''$	Threads per Inch	10
" " " in Boilers	$1\frac{5}{8}''$		10
Material " "			STEEL
Thickness of Combustion Chamber Sides Approved			$\frac{5}{8}''$
" " " " in Boilers			$\frac{5}{8}''$
Pitch of Screwed Stays in C.C. Sides			$8\frac{3}{8}'' \times 8\frac{1}{8}''$
Diar. " " Approved	$1\frac{5}{8}''$	Threads per Inch	10
" " " in Boilers	$1\frac{5}{8}''$		10
Material " "			STEEL
Thickness of Combustion Chamber Backs Approved			$\frac{5}{8}''$
" " " " in Boilers			$\frac{5}{8}''$
Pitch of Screwed Stays in C.C. Backs			$7\frac{3}{4}''$
Diar. " " Approved	$2\frac{1}{8}''$, $1\frac{7}{8}''$ & $1\frac{5}{8}''$	Threads per Inch	10
" " " in Boilers	Do.		10
Material " "			STEEL
Are all Screwed Stays fitted with Nuts inside C.C.?			YES
Thickness of Combustion Chamber Bottoms			$\frac{13}{16}''$
No. of Girders over each Wing Chamber			5
" " " Centre "			3
Depth and Thickness of Girders			$10'' \times \frac{3}{4}''$
Material of Girders			STEEL
No. of Stays in each			3
No. of Tubes, each Boiler	326 PLAIN. 124 STAY. 450 TOTAL.		
Size of Lower Manholes			16" × 12"

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 Lengths	5			
Material	Wrot Iron			
Brazed, Welded or Seamless	Lap Welded			
Internal Diar.	5"			
Thickness	¼"			
How are Flanges secured ?	Screwed & Exp^d			
Date of Hydraulic Test	11-10-24			
Test Pressure	600 Lbs.			

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

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

EVAPORATORS.

No. ONE Type VERTICAL Nº 72747 Tons per Day 30

Makers G. & J. WEIR, Lᵀᵒ CATHCART

Working Pressure ESCAPE SET @ 30 LBS. Test Pressure SHELL 50 LBS COILS 400 Date of Test 9-6-24

Date of Test of Safety Valves under Steam 1-11-24

FEED WATER HEATERS.

No. ONE Type DIRECT CONTACT. 21"

Makers G. & J. WEIR, Lᵀᵒ Nº 72945

Working Pressure ESCAPE SET @ 20 LBS. Test Pressure 40 LBS. Date of Test 17-6-24.

FEED WATER FILTERS.

No. ONE Type MULTIFLOW Size Nº 5.

Makers THE CONTRAFLO CONDENSER & KINETIC AIR PUMP Co.

Working Pressure ✓ Test Pressure ✓ Date of Test

LIST OF DONKEY PUMPS.

MAIN FEED PUMPS. 2 IN Nº G. & J. WEIR, Lᵀᵒ Nº 72946 10½" × 8" × 22"
SUCTIONS:- BOILERS. CONDENSER. HEATER. FILTER. SEA.
DISCHARGES:- MAIN & AUX. FEED CHECKS. OVERBOARD.

HARBOUR DITTO. 1 OFF. J. H. CARRUTHERS & Co Lᵀᵒ Nº 6973 5" × 3½" × 8"
SUCTION:- FLOAT TANK. CASCADE TANK. SEA.
DISCHARGE:- BOILERS.

BALLAST PUMP 1 OFF. J. H. CARRUTHERS & Co Lᵀᵒ Nº 6511. 10" × 12" × 12"
SUCTIONS:- SEA. TANK LINE. BILGE. SPECIAL BILGE
DISCHARGES:- MAIN & AUX. CONDENSERS. TANK LINE. OVERBOARD.

GEN^L SERVICE PUMP 1 OFF. J. H. CARRUTHERS & Co Lᵀᵒ Nº 6886 7½" × 5" × 10"
SUCTIONS:- SEA. BILGES. TANK LINE. CONDENSER. FILTER. DRY TANK. BOILERS.
DISCHARGES:- OVERBOARD. DECK. SANITARY TANK. BOILERS.

MAIN CIRCULATING P/P. 1 OFF. McKIE & BAXTER.
SUCTIONS:- SEA. E.R. BILGE. DISCH^G:- O'BOARD THRO' CONDENSER

SPARE GEAR.

No. of Top End Bolts.	2	No. of Bot. End Bolts.	2	No. of Cylinder Cover Studs	16
" Coupling Bolts	1 SET	" Main Bearing Bolts	2	" Valve Chest "	6
" Junk Ring Bolts	12	" Feed Pump Valves	2 SETS	" Bilge Pump Valves	1 SET
" H.P. Piston Rings	1 SET	" I.P. Piston Rings	1 SET	" L.P. Piston Rings	
" " Springs	Do	" " Springs	Do	" " Springs	
" Safety Valve "	1 PAIR	" Fire Bars	1 SET FOR 1 BL'R	" Feed Check Valves	1 M. 1 AUX.
" Piston Rods		" Connecting Rods		" Valve Spindles	1 H.P. 1 L.P.
" Air Pump Rods	ONE	" Air Pump Buckets		" Air Pump Valves	1 SET
" Cir. "		" Cir. "		" Cir. "	
" Crank Shafts		" Crank Pin Bushes	1 PAIR	" Crosshead Bushes	1 PAIR
" Propeller Shafts	ONE	" Propellers		" Propeller Blades	1 BRONZE
" Boiler Tubes	24	" Condenser Tubes	36	" Condenser Ferrules	100

OTHER ARTICLES OF SPARE GEAR:—

1 SET OF LINK BRASSES FOR TWO ENDS

1 ECCENTRIC STRAP COMPLETE

1 SET OF BEARING RINGS EACH FOR H.P. & I.P. PISTON RODS & SPRINGS

1 CYLINDER ESCAPE VALVE SPRING

1 SET OF FURNACE FRONT BAFFLE PLATES FOR ONE BOILER, WITH DOOR BAFFLES & PATTERN.

1 BRASS IMPELLER & 1 BRONZE SPINDLE FOR CENTRIFUGAL PUMP.

REFRIGERATORS.

No. of Machines Capacity of each

Makers

Description ONE SMALL MACHINE FOR SHIPS USE ONLY

No. of Steam Cylinders, each Machine No. of Compressors No. of Cranks

Particulars of Pumps in connection with Refrigerating Plant and whether worked by Refrigerating Machines or Independently

System of Refrigeration

" Insulation

Are Brine and other Regulating Valves placed so as to be accessible without entering the Insulated Spaces?

Are all Pipes, Air Trunks, &c., well secured and protected from risk of damage?

Are all Bilge, Sounding, and Air Pipes in Insulated Spaces properly insulated?

Are Thermometer Tubes so arranged that Water cannot enter and freeze in them?

Date of Test under Working Conditions

RESULTS OF TRIALS.

COMPARTMENT.	Temp. at beginning of Trial.	Temp. at end of Trial.	Time required to obtain this Result.	Rise of Temp. after hours.

Articles of Spare Gear for Refrigerating Plant carried on board:—

ELECTRIC LIGHTING.

Installation Fitted by TELFORD, GRIER & McKAY

No. and Description of Dynamos ONE 12 KW. 4 POLE

Makers of Dynamos J. H. HOLMES & Co.

Capacity " 120 Amperes, at 100 Volts, 300 Revols. per Min.

Current Alternating or Continuous CONTINUOUS

Single or Double Wire System DOUBLE

Position of Dynamos BOTTOM PLATFORM, STD SIDE ENGINE ROOM.

" Main Switch Board ON BULKHEAD BESIDE DYNAMO

No. of Circuits to which Switches are provided on Main Switch Board 7

Particulars of these Circuits:—

Circuit.	Number of Lights.	Candle Power. or Watts	Current Required. Amps.	Size of Conductor.	Current Density.	Conductivity of Conductor.	Insulation Resistance per Mile.
1) FORWARD	25	20 W	5	·007	714	100%	600 M.
2) SALOON	54	VARIOUS	17	·010	1700	Do	Do
3) NAVIGATION	11	Do	8	·010	1143	Do.	Do.
4) ENGINEERS	57	20 W.	12	·010	1200	Do.	Do
5) WIRELESS	–	–	–	·010	–	Do	Do
6) ENGINE ROOM	28 3	16 C.P 100 W.	17	·010	1700	Do	Do
7) 3 H.P. MOTOR			30	·010	3000	Do.	Do.

Total No. of Lights 178 No. of Motors driving Fans, &c. ONE No. of Heaters –

Current required for Motors and Heaters 30 AMPS.

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

NONE

Are Cut-outs fitted as follows ?—

On Main Switch Board, to Cables of Main Circuits YES

On Aux. ,, ,, each Auxiliary Circuit —

Wherever a Cable is reduced in size YES

To each Lamp Circuit YES

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

Are the Fuses of Standard Sizes ? YES

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

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

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

How are Conductors in Engine and Boiler Spaces protected ? LEAD COVERED & ARMOURED.

,, Saloons, State Rooms, &c., ,, ? LEAD COVERED

What special protection is provided in the following cases ?—

(1) Conductors exposed to Heat or Damp ARMOURED

(2) ,, passing through ~~Bunkers or~~ Cargo Spaces Do.

(3) ,, ,, Deck Beams or Bulkheads W.T. 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 ? —

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 ? 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 ? 1·2 Ohms.

Is the Installation supplied with a Voltmeter ? YES

,, ,, ,, an Ampere Meter? YES

Date of Trial of complete Installation 1-11-24 Duration of Trial 6 HOURS

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

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 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. "BARON MACLAY"

as ascertained by ~~me~~ from personal examination

Geo S Macfarlane

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

Fees—

		£	s.	d.
MAIN BOILERS.				
H.S.	Sq. ft.		:	:
G.S.	,,		:	:
DONKEY BOILERS.				
H.S.	Sq. ft.		:	:
G.S.	,,		:	:
		£	:	:
ENGINES.				
L.P.C.	Cub. ft.		:	:
		£	:	:
Testing, &c.			:	:
		£	:	:
Expenses			:	:
Total ...		£	:	:

It is submitted that this Report be approved,

J Foster King

Chief Surveyor.

Approved by the Committee for the Class of **M.B.S.*** on the 19th November 1924

Fees advised

Fees paid

Secretary.