

No. 2243

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 2244 No. in Register Book 3631

S.S. TEAKBAY

Makers of Engines

Sanctus Rocks & Co. Ltd.

Works No. 338

Makers of Main Boilers

Blair & Co. (1926) Ltd.

Works No. C. 184

Makers of Donkey Boiler

Works No.

MACHINERY.

Lloyd's Register
Foundation

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No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. No. in Register Book

Received at Head Office

8th November 1929

Surveyor's Report on the New Engines, Boilers, and Auxiliary
Machinery of the

| | | | | |
|--------|------|--------|-----------|-------|
| Single | Twin | Triple | Quadruple | Screw |
|--------|------|--------|-----------|-------|

 "Beakbay"

Official No.

Port of Registry

Montreal

Registered Owners

The Beakbay Steamship Co. Montreal

Engines Built by

Smiths Dock Co. Ltd.
South Bank-on-Tees

at

Main Boilers Built by

Blain & Co (1926) Ltd.
Stockton-on-Tees

at

Donkey

at

Date of Completion

4-29

First Visit

19-11-28

Last Visit

3-4-29

Total Visits

40

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RECIPROCATING ENGINES.

Works No. **338** No. of Sets **1** Description **Triple expansion
S.C. 3 crks.**

No. of Cylinders each Engine **3.** No. of Cranks **3.**
Diars of Cylinders **15" 25" 40"** Stroke **33"**

Cubic feet in each L.P. Cylinder **24**

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

" " " each Receiver? **yes.**

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

1st I.P., "

2nd I.P., "

L.P., "

" Valve Gear **stephenson links.**

" Condenser **surface.**

Cooling Surface **904** sq. ft.

Diameter of Piston Rods (plain part)

Screwed part (bottom of thread)

Material "

Diar. 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 " "

Length

" Bolts in each

Diar. over Thread

Threads per inch

Material

" Holding Down Bolts, each Engine

Diar.

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?

*Same as
S.C. 3 crks.*

Connecting Rods, Forged by **Brown Bros.**

Piston " "

Crossheads " "

Connecting Rods, Finished by **Smiths Dock Co. Ltd.**

Piston " "

Crossheads, " "

Date of Harbour Trial **3-4-29.**

" Trial Trip **13-4-29**

Trials run at **In Ills Bay.**

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

If so, what was the I.H.P.? **853**

Revs. per min. **121**

Pressure in 1st I.P. Receiver, **59** lbs., 2nd I.P.,

lbs., L.P., **11.5** lbs., Vacuum, **25** 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.

Revs. 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?

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

Revs. 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 Revs. per min. S.H.P.

Turbine Spindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

" Wheels forged or cast by

TURBO-ELECTRIC MACHINERY. DESCRIPTION OF INSTALLATION:

No. of Turbo-Generating Sets Capacity of each

Type of Turbine employed

Description of Generator

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

Revs. per min. of Generator at Full Load

" " " " "

" " 1st Reduction Shaft

" " 2nd " "

" " Propeller Shaft

Total Shaft Horse Power

Date of Harbour Trial

" Trial Trip

Trials run at

Speed on Trial Knots. Propeller Revs. per min. S.H.P.

Turbine Spindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

" Wheels forged or cast by



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TURBO-ELECTRIC PROPELLING MACHINERY.

No. of Turbo-Generating Sets Type of Turbine Capacity of each

Type of Turbines employed No. of L.P. No. of H.P. No. of A.C. No. of D.C.

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 } Width Pitch of Teeth

 " 1st " Wheel }

Estimated Pressure per lineal inch

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

 " 2nd " Wheel }

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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No. of Blades each Propeller *Writed or Solid?*
 Material of Blades *Wood*
 Diar. of Propellers *Pitch* Surface (each S. ft.)
 Coefficient of Displacement of Vessel at Moulded Depth

Crank Shafts Forged by *Yife Yore Co.* Material *Sp.*
 ,, Pins ,, " " " " } @
 ,, Webs ,, " " " " }
 Thrust Shafts ,, " " " " }
 Intermed. ,, " " " " }
 Propeller ,, " " " " }
 Crank ,, Finished by " " " " }
 Thrust ,, " " " " }
 Intermed. ,, " " " " }
 Propeller ,, " " " " }

STAMP MARKS ON SHAFTS.

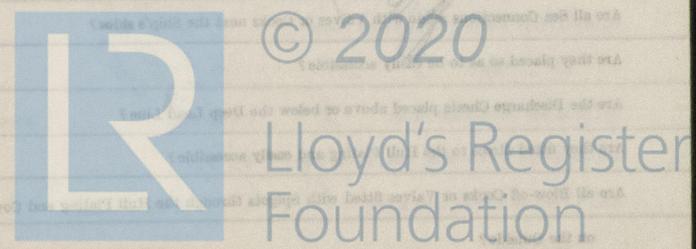
*Crank, Thrust
 & Tail Shafts:-*

*B.G.
 N0230
 25-1-29
 R.S.*

SKETCH OF PROPELLER SHAFT.

Sketch of Propeller Shaft

No. of Air Pumps
 Worked by Main or Independent Engines?
 No. of Chronising Pumps
 Type of
 Diar. of
 Section from Sea
 Has each Pump a High Section with Non-return Valves?
 What other Pumps can circulate through Condenser?
 No. of Feed Pumps on Main Engines
 Are Spring-loaded Ball Valves fitted to each Pump?
 Can one Pump be overboard while the others are at work?
 No. of Independent Feed Pumps
 What other Pumps can feed the boilers?
 No. of High Pumps on Main Engines
 Can one Pump be overboard while the others are at work?
 No. of Independent High Pumps
 What other Pumps can draw from the Bilges?
 Are all High Sections fitted with Traps?
 Are the Valves etc., so arranged as to prevent unintentional connection between Sea and Bilges?
 Are all Sea Connections fitted with Traps?
 Are they placed so as to prevent flooding?
 Are the Firebrigs (Chests) placed above or below the Deck (and why)?
 Are the Firebrigs (Chests) fitted with Traps?
 Are all Flow of Steam or Water fitted with Traps and Locking Plates or Traps?



BOILERS.

Works No.

No. of Boilers

2

Type

Single or Double-ended

No. of Furnaces in each

Type of Furnaces

Date when Plan approved

Approved Working Pressure

Hydraulic Test Pressure

Date of Hydraulic Test

" when Safety Valves set

Pressure at which Valves were set

Date of Accumulation Test

Maximum Pressure under Accumulation Test

System of Draught

Can Boilers be worked separately?

Makers of Plates

" Stay Bars

" Rivets

" Furnaces

Greatest Internal Diar. of Boilers

" " Length "

Square Feet of Heating Surface each Boiler

" " Grate " "

No. of Safety Valves each Boiler

Are the Safety Valves fitted with Easing Gear?

No. of Pressure Gauges, each Boiler

No. of Water Gauges

" Test Cocks

" Salinometer Cocks

6/18th
 Cylindrical multitubular
 single.
 Brighton

180 lbs.

320 "

5-3-29

3-4-29

185 lbs.

3-4-29

185 lbs.

C.A.

yes.

James Dunlop & Co. Ltd.

J. Colville & Sons Ltd.

Blair, Co.
 Broonside, S. S. Co. @10'-4 ³/₈"10'-9 ⁵/₁₆"

1128 #

33.8 #

2

Rule Diar.

Actual

2 ¹/₂"

yes.

2

1

3

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 middle plate



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draft of boiler plate

Diam. 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 Diam. of Tubes

Material „

Thickness of Furnace Plates Approved

„ „ „ in Boilers

Smallest outside Diam. 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 made up case"

Threads per Inch

Diam. of Screwed Stays Approved

„ „ in Boilers

Material „

Thickness of Combustion Chamber Stays Approved

„ „ „ „ in Boilers

Pitch of Screwed Stays in C.C. Sides

Threads per Inch

Diam. „ Approved

„ „ in Boilers

Material „

Thickness of Combustion Chamber Backs Approved

„ „ „ „ in Boilers

Pitch of Screwed Stays in C.C. Backs

Threads per Inch

Diam. „ Approved

„ „ in Boilers

Material „

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

Thickness of Combustion Chamber Fronts

No. of Girders over each Trip Chamber

„ „ „

„ „ „



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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.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 Water Chamber

" " " Centre

Depth and Thickness of Girders

Material of Girders

No. of Stays in each

No. of Tubes, each Boiler

Size of Lower Manholes

Same as manholes wall

VERTICAL DONKEY BOILERS

No. of Boilers Type
 Greatest Dia. Dia. Height
 Heights of Boiler Crown above Fire Grate
 Are Boiler Crowns Flat or Dished?
 Internal Radius of Dished Boilers
 Description of Beams in Boiler Crowns
 Width of Overlap
 Dia. of Fire Bricks
 Height of Firebox Crown above Fire Grate
 Are Firebox Crowns Flat or Dished?
 External Radius of Dished Crowns
 Thickness of Plates
 Dia. Material
 No. of Crown Stays
 External Dia. of Firebox at Top
 Height
 No. of Water Tubes
 Material of Water Tubes
 Size of Manhole in Shell
 Dimensions of Connecting Ring
 Height outside each Boiler
 Girth Girders

SUPERHEATERS

Description of Superheaters
 Where situated?
 Which Boilers are connected to superheaters?
 Can superheaters be set of while boilers are working?
 No. of safety Valves on each superheater
 Date when safety Valves set
 Location of Valves



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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.



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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

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

4
Copper.
S.P.
3 1/2
2 1/2
brashed.
27-3-29
400 lbs.

EVAPORATORS.

FEED WATER HEATERS.

FEED WATER FILTERS.



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REFRIGERATORS.

No. of Machines

Capacity of each

Makers

Description

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. |
|---------------------------------|------------------------------|------------------------|--------------------------------------|----------------------------|
| Makers of Machinery | | | | |
| Capacity | | | | |
| Current Consumption of Coal/Oil | | | | |
| Make of Double Wire System | | | | |
| Particulars of Machinery | | | | |
| Make of Main Engine | | | | |
| No. of Cylinders in main engine | | | | |
| Particulars of other Machinery | | | | |
| Make of Compressor | | | | |
| Make of Crank | | | | |

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



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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 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.

"TEAK BAY"

as ascertained by ^{me} from personal examination

J. W. Stephenson

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

Fees—

| MAIN BOILERS. | | £ | s. | d. |
|------------------|--------------|---|----|----|
| H.S. | 2256 Sq. ft. | : | : | : |
| G.S. | 67.6 " | : | : | : |
| DONKEY BOILERS. | | | | |
| H.S. | Sq. ft. | : | : | : |
| G.S. | " | : | : | : |
| | | £ | : | : |
| ENGINES. | | | | |
| L.P.O. | 24 Cub. ft. | : | : | : |
| | | £ | : | : |
| Testing, &c. ... | | : | : | : |
| | | £ | : | : |
| Expenses ... | | : | : | : |
| Total ... | | £ | : | : |

It is submitted that this Report be approved,

Gas Barr for Chief Surveyor.

Approved by the Committee for the Class of M.B.S.* on the 13th November, 1929

Fees advised

Fees paid



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Secretary.

GENERAL INFORMATION

NAME OF THE PARTY: MAIN HOLDINGS

U.S. : : 2d fl. 1000

G.S. : : 1000

DOMESTIC HOLDINGS

U.S. : : 2d fl.

G.S. : : "

1

INDICES

L.P.O. : : 1000

1

Tealag & Co

1

Expenses

Total : : 1

It is submitted that this Report be approved.

Approved by the Committee for the Class of M.E.S. on the 10th day of 1946

Approved by the Committee for the Class of M.E.S. on the 10th day of 1946

"TEAR OIL"

Form advised

Fees paid



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