

No. 2384

3079

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 2394 No. in Register Book 3813

" " S.S. SOUTHERN STAR

Makers of Engines

Sneath Dock Co. Ltd.

Works No.

394

Makers of Main Boilers

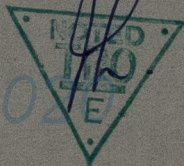
Richardsons Westgarth Works

Works No.

D. 210.

Makers of Donkey Boiler

Works No.



MACHINERY.



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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

15th November 1930

Surveyor's Report on the Detsu Engines, Boilers, and Auxiliary
Machinery of the ~~Single Screw~~ Whale

"Southern Star"

Official No.

Port of Registry

Stanley, F. I.

Registered Owners

Southern Whaling & Sealing Co. Ltd.

Engines Built by

South. Docks & Co. Ltd.

at

South Bank-on-Las

Main Boilers Built by

Richardson Westgarth & Co. Ltd.
Hartlepool.

" at

Donkey "

at

Date of Completion

8-30

First Visit

25-3-30

Last Visit

5-8-30

Total Visits

36

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RECIPROCATING ENGINES

Works No. **394** No. of Sets **1** Description **Tuple expansion.
S.P. Berks.**

No. of Cylinders each Engine **3** No. of Cranks **3**
Diams. of Cylinders **16" - 26" - 44"** Stroke **26"**
Cubic feet in each L.P. Cylinder **23**

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

" " each Receiver? **yes.**

Type of H.P. Valves,

1st I.P. "

2nd I.P.,

L.P. "

" Valve Gear

" Condenser

Diameter of Piston Rods (plain part)

Material

Diam. of Connecting Rods (smallest part)

" Crosshead Gudgeons

No. of Crosshead Bolts (each)

" Crank Pin "

" Main Bearings

" Bolts in each

" Holding Down Bolts, each Engine

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?

No. of Cranks **3**

Stroke **26"**

yes.

yes.

iston

slide

Stephenson Link.

Surface

Cooling Surface **1635** sq. ft.

Screwed part (bottom of thread) **3 5/32"**

steel

4 1/4"

Material

Iron

Length of Bearing **11 1/8"**

Material

Diam. over Thrd. **2 1/8"**

Threads per inch **8**

Material

" " **2 5/8"**

6

Lengths **11 3/8"**

Diam. over Thread **2 3/8"**

Threads per inch **6**

Material

steel

Diam. **1 3/8"**

No. of Metal Chocks **70**

built seat.

no

Connecting Rods, Forged by

Piston "

Crossheads,

Connecting Rods, Finished by

Piston "

Crossheads,

Date of Harbour Trial

" Trial Trip

Trials run at

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

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

Pressure in 1st I.P. Receiver, **68** lbs., 2nd I.P.,

Speed on Trial

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

data:—

Builders' estimated I.H.P.

Estimated Speed

Revs. per min.

Blair & Co.

Cumtch Rock & Co.

22-7-30

5-8-30

In Gas Bay.

yes.

1345

Revs. per min. **178**

68

lbs., 2nd I.P.,

lbs., L.P., **10**

lbs., Vacuum, **25** ins.

no chas taken.

12 knots.



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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 Stern

Are the Propeller Shafts driven direct by the Turbines or through Gearing? *3*

Is Single or Double Reduction Gear employed? *26*

Diam. of 1st Reduction Pinion } Width Pitch of Teeth
 " 1st " Wheel } *8-8-30*

Estimated Pressure per lineal inch

Diam. of 2nd Reduction Pinion } Width Pitch of Teeth
 " 2nd " Wheel } *13-4-2*

Estimated Pressure per lineal inch

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

" " I.P. " " *1635*

" " L.P. " " *1635*

" " 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. *40 130 40*

Turbine Spindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

" Wheels forged or cast by

DESCRIPTION OF INSTALLATION.

Capacity of each

Type of Turbine employed

Description of Generators

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 Motors

Diam. of 1st Reduction Pinion

" 1st " Wheel

Estimated Pressure per lineal inch

Diam. of 2nd Reduction Pinion

" 2nd " Wheel

Estimated Pressure per lineal inch

Revs. per min. of Generators at Full Power

" " Motors

" " 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 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

1

Angle of Cranks

120°

Diar. by Rule

8 3/4"

Actual

8 1/2"

In Way of Webs

8 7/8"

" of Crank Pins

Length between Webs

12"

Greatest Width of Crank Webs

2'-0"

Thickness

5 1/4"

Least

*13"**5 1/4"*

Diar. of Keys in Crank Webs

1 1/2"

Length

4"

" Dowels in Crank Pins

1"

Length

3 1/2"

Screwed or Plain

plain

No. of Bolts each Coupling

6

Diar. at Mid Length

2"

Diar. of Pitch Circle

12 1/2"

Greatest Distance from Edge of Main Bearing to Crank Web

3/16"

Type of Thrust Blocks

Korseshae.

No. " Rings

6

Diar. of Thrust Shafts at bottom of Collars

8 1/2"

No. of Collars

6

" " Forward Coupling

8 1/2"

At Aft Coupling

8 1/2"

Diar. of Intermediate Shafting by Rule

Actual

No. of Lengths

No. of Bolts, each Coupling

Diar. at Mid Length

Diar. of Pitch Circle

Diar. of Propeller Shafts by Rule

Actual

At Coupling

*8 7/8"**8 1/2"*

Are Propeller Shafts fitted with Continuous Brass Liners?

yes.

Diar. over Liners

10"

Length of After Bearings

4'-0 1/2"

Of what Material are the After Bearings composed?

Ugnum Bitas.

Are Means provided for lubricating the After Bearings with Oil?

no

" " to prevent Sea Water entering the Stern Tubes?

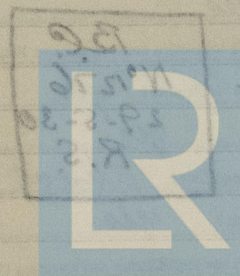
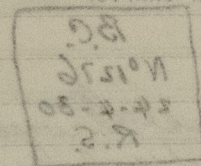
no

If so, what Type is adopted?

open to sea.

SKETCH OF CRANK SHAFT.

STAMP MARKS ON SHAFTS

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No. of Blades each Propeller *4* Fitted or Solid? *solid*
 Material of Blades *C.S.* Boss *C.S.*
 Diam. of Propellers *9'-9"* Pitch *9'-0"* Surface (each *40* S. ft.)
 Coefficient of Displacement of Vessel at $\frac{1}{2}$ Moulded Depth

Crank Shafts Forged by *Yips Yore Co.* Material *C.S.*
 " Pins " " " "
 " Webs " " " "
 Thrust Shafts " " " "
 Intermed. " " " "
 Propeller " " " "
 Crank " Finished by " "
 Thrust " " " "
 Intermed. " " " "
 Propeller " " " "

STAMP MARKS ON SHAFTS.

Crank Shaft: —

B.C.
 N°1276
 24-4-30
 R.S.

Thrust & Tail Shafts: —

B.C.
 N°1276
 29-5-30
 R.S.

SKETCH OF PROPELLER SHAFT.

No. of Air Pumps
 Worked by Main or Independent Engines
 No. of Condenser Pumps
 Type of
 Section from Sea
 Is 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 Relief Valves fitted to each Pump?
 Can one Pump be overhauled while the others are at work?
 No. of Independent Feed Pumps
 What other Pumps can feed the Boilers?
 No. of Bilge Pumps on Main Engines
 Can one Pump be overhauled while the others are at work?
 No. of Independent Bilge Pumps
 What other Pumps can draw from the Bilges?
 Are all Bilge Sections fitted with Hoses?
 Are the Valves, etc., so arranged as to prevent unnecessary connection between Sea and Bilges?
 Are all Sea Connections made with valves or cocks working in both directions?
 Are they placed so as to be easily accessible?
 Are the Discharges from Bilge Pumps below the Deep Lead Line?
 Are the Discharges from Sea Pumps below the Deep Lead Line?
 Are all Pumps fitted with the following and covering Plates or Frames on the Outside?

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PUMPS, ETC.

No. of Air Pumps 1 Diar. 19" Stroke 15"

Worked by Main or Independent Engines?

Independent.

No. of Circulating Pumps 1 Diar. Stroke

Type of " Centrifugal.

Diar. of " Suction from Sea 9"

Has each Pump a Bilge Suction with Non-return Valve?

General Service.

What other Pumps can circulate through Condenser?

No. of Feed Pumps on Main Engine - 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 18"

What other Pumps can feed the Boilers?

General Service.

No. of Bilge Pumps on Main Engine - Diar. - Stroke -

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

No. of Independent Bilge Pumps 1

What other Pumps can draw from the Bilges?

General Service & Centrifugal pumps.

Are all Bilge Suctions fitted with Roscs?

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

Works No.

No. of Boilers 1

Single or Double-ended

No. of Passages in each

Type of Furnaces

Tests 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 Drafting

Can Boilers be worked separately?

Means of Firing

Day Box

River

Furnace

Greatest Internal Diam. of Boilers

Length of Boilers

Surface Area of Boilers

Water Level

Are the Safety Valves fitted with locking device?

No. of Water-Flanges

Top Cocks



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BOILERS

Works No.

No. of Boilers

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 Diam. of Boilers

" " Length "

Square Feet of Heating Surface each Boiler

" " Grate "

No. of Safety Valves each Boiler

Rule Diam.

Actual

Are the Safety Valves fitted with Easing Gear?

No. of Pressure Gauges, each Boiler

No. of Water Gauges

" Test Cocks

" Salinometer Cocks

D. 210
Cylindrical multitubular
single

3.
Dighton.

24-2-30

200 lb.

350 lb.

24-5-30

22-7-30

206 lb.

22-7-30

206 lb.

C.A.

Steel Co. of Scotland.

R. B. 1. & Co. Ltd.
Dighton 41 & Co.

15'-6"

12'-6"

3050 sq.

2

3"

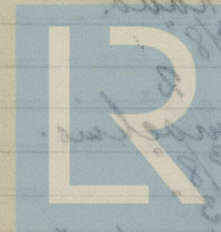
yes.

2

1

3

1



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Are the Water Gauges fitted direct to the Boiler Shells or mounted on Pillars? *on pillars.*

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

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

" 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

Diam. of Rivet Holes *1 3/8"* Pitch *9 1/2"*

No. of Rows of Rivets in Centre Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diam. of Rivet Holes *1 1/4"* Pitch *3 3/8"*

No. of Rows of Rivets in Front End Circumferential Seams

Are these Seams Hand or Machine riveted?

Diam. of Rivet Holes *1 1/4"* Pitch *3 3/8"*

No. of Rows of Rivets in Back End Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diam. of Rivet Holes *1 1/4"* Pitch *3 3/8"*

Size of Manholes in Shell

Dimensions of Compensating Rings

Thickness of End Plates in Steam Space Approved

" " in Boilers

Pitch of Steam Space Straps

Diam. of Rivets per Inch

" " in Boilers

" " in Boilers

How are Straps Secured?

Diam. and Thickness of Loose Washers on End Plates

" " Riveting

" " Doubling Straps

" " Riveting

Thickness of Middle Back End Plates Approved

" " in Boilers

Thickness of Doublings in Wide Spaces between Fireboxes

Pitch of Straps at

Diam. of Rivets per Inch

" " in Boilers

" " Riveting

Are Straps fitted with Ribs outside?

Thickness of Back End Plates at Bottom Approved

" " in Boilers

Pitch of Straps at

Diam. of Rivets per Inch

" " in Boilers

Thickness of Doublings

Thickness of Middle Back End Plates Approved

" " in Boilers

No. of Doublings Straps in Wide Spaces between Fireboxes



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Thickness of End Plates in Steam Space Approved

 $1\frac{5}{16}$ "

" " " " in Boilers

 $1\frac{5}{16}$ "

Pitch of Steam Space Stays

 $20\frac{1}{2}" \times 19\frac{1}{2}"$

Diar. " " " Approved

 $3\frac{1}{4}"$ Threads per Inch 6

" " " " in Boilers

 $3\frac{1}{4}"$ 6

Material of " " "

steel.

How are Stays Secured?

double-nuts.

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

 $13\frac{1}{2}" \times 8\frac{1}{2}"$

Diar. of Stays Approved

 $2\frac{1}{8}" \times 1\frac{3}{8}"$ Threads per Inch 9

" " in Boilers

 $2\frac{1}{8}" \times 1\frac{3}{8}"$ 9

Material " "

steel.

Are Stays fitted with Nuts outside?

yes.

Thickness of Back End Plates at Bottom Approved

 $\frac{7}{8}"$

" " " " in Boilers

 $\frac{7}{8}"$

Pitch of Stays at Wide Spaces between Fireboxes

 $13\frac{1}{2}" \times 8\frac{1}{2}"$

Thickness of Doublings in

 $\frac{3}{4}"$

Thickness of Front End Plates at Bottom Approved

 $\frac{7}{8}"$

" " " " in Boilers

 $\frac{7}{8}"$

No. of Longitudinal Stays in Spaces between Furnaces

6.



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Diar. of Stays Approved

 $2\frac{3}{4}"$

Threads per Inch

6

" " in Boilers

 $2\frac{3}{4}"$

6

Material

steel.

Thickness of Front Tube Plates Approved

 $\frac{7}{8}"$

" " " in Boilers

Pitch of Stay Tubes at Spaces between Stacks of Tubes

 $13\frac{1}{2}" \times 7\frac{1}{4}"$

Thickness of Doublings in

 $\frac{3}{8}"$

" Stay Tubes at

yds.

Are Stay Tubes fitted with Nuts at Front End

Thickness of Back Tube Plates Approved

 $\frac{3}{4}"$

" " " in Boilers

Pitch of Stay Tubes in Back Tube Plates

 $7\frac{1}{4}" \times 11\frac{1}{4}"$

" Plain "

 $3\frac{3}{4}" \times 3\frac{5}{8}"$

Thickness of Stay Tubes

 $\frac{7}{16}"$

" Plain "

8 w.t.

External Diar. of Tubes

 $2\frac{1}{2}"$

Material

Iron.

Thickness of Furnace Plates Approved

 $2\frac{1}{32}"$

" " " in Boilers

 $2\frac{1}{32}"$

Smallest outside Diar. of Furnaces

 $3'-10" \times 13\frac{1}{16}"$

Length between Tube Plates

 $8'-6"$

Width of Combustion Chambers (Front to Back)

 $3'-1"$

Thickness of " " Tops Approved

 $\frac{1}{16}"$

" " " in Boilers

 $\frac{1}{16}"$

Pitch of Screwed Stays in C.O. Tops

 $8\frac{3}{8}" \times 9\frac{1}{2}"$ 

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Diar. of Screwed Stays Approved

 $1\frac{3}{4}"$
 $1\frac{3}{4}"$ Threads per Inch 9

" " " in Boilers

Material " "

steel.

Thickness of Combustion Chamber Sides Approved

 $\frac{1}{16}"$
 $\frac{1}{16}"$

" " " " in Boilers

Pitch of Screwed Stays in C.C. Sides

 $8\frac{1}{2}" \times 8\frac{3}{8}"$

Diar. " " Approved

 $1\frac{5}{8}"$
 $1\frac{5}{8}"$ Threads per Inch 9

" " " in Boilers

Material " "

steel.

Thickness of Combustion Chamber Backs Approved

 $2\frac{1}{32}"$
 $2\frac{1}{32}"$

" " " " in Boilers

Pitch of Screwed Stays in C.C. Backs

 $8\frac{1}{2}" \times 8"$

Diar. " " Approved

 $2\frac{1}{8}"$
 $1\frac{7}{8}"$
 $1\frac{5}{8}"$ Threads per Inch 9

" " " in Boilers

Material " "

steel.

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

 $\frac{1}{16}"$
 $\frac{1}{8}"$

Thickness of Combustion Chamber Bottoms

No. of Girders over each Wing Chamber

4

" " " Centre "

4

Depth and Thickness of Girders

 $9\frac{3}{4}" \times 1\frac{3}{4}"$

Material of Girders

steel.

No. of Stays in each

3

No. of Tubes, each Boiler

450

Size of Lower Manholes

 $16" \times 12"$

VERTICAL DONKEY BOILERS

No. of Boilers

Greatest Int. Diam.

Height of Boiler Crown above Fire Grate

Are Boiler Crowns Flat or Dished?

Internal Radius of Dished Heads

Description of Stays in Boiler Crown

Diam. of Fire Holes

Height of Firebox Crown above Fire Grate

Are Firebox Crowns Flat or Dished?

Internal Radius of Dished Crowns

No. of Crown Stays

Internal Diam. of Firebox at Top

No. of Water Tubes

Material of Water Tubes

Size of Manholes in Shell

Description of Compensation Ring

Heating Surface, each Boiler

SUPERHEATERS

Description of Superheaters

Where situated?

Which Boilers are connected to superheaters?

Can superheaters be shut off while Boilers are working?

Can superheaters be used on one boiler only?

Are " " fitted with heating coils?

Date of Installation

Data when Safety Valves are



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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. 1	Type Surface	Maker's Name
Makers		
Working Pressure 200 lbs.	Test Pressure 400 lbs.	Date of Test 19/5/30

FEED WATER FILTERS.

No. 1	Type Gravity	Size
Makers		
Working Pressure	Test Pressure	Date of Test

LIST OF DONKEY PUMPS.

2 Independent Feed Pumps.
 1 Centrifugal pump.
 1 Duplex General Service pump.
 1 Bilge pump.
 1 Independent Air pump.



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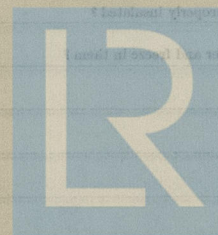
SPARE GEAR.

No. of Top End Bolts.	2	No. of Bot. End Bolts.	2	No. of Cylinder Cover Studs	
" Coupling Bolts	6	" Main Bearing Bolts	2	" Valve Chest "	
" Junk Ring Bolts	6	" Feed Pump Valves	1 set	" Bilge Pump Valves	1 set
" H.P. Piston Rings	1	" I.P. Piston Rings		" L.P. Piston Rings	
" " Springs	1	" " Springs		" " Springs	
" Safety Valve "	1	" Fire Bars	1 set	" Feed Check Valves	2
" Piston Rods		" Connecting Rods		" Valve Spindles	
" Air Pump Rods		" Air Pump Buckets		" Air Pump Valves	1 set
" Cir. "		" Cir. "		" Cir. "	
" Crank Shafts		" Crank Pin Bushes		" Crosshead Bushes	
" Propeller Shafts		" Propellers	1	" Propeller Blades	
" Boiler Tubes	8	" Condenser Tubes	12	" Condenser Ferrules	30

OTHER ARTICLES OF SPARE GEAR:—

REFRIGERATORS

No. of Machines		Capacity of each	
Make			
Description			
No. of Steam Cylinders, each Machine		No. of Compressors	
No. of Cranks			
Particulars of Engines in connection with Refrigerating Plant and whether worked by Refrigerating Machines			
or Independently			



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REFRIGERATORS.

No. of Machines *2* Capacity of each *2*

Makers *Refrigerating Works* *6* *2* *2*

Description *Refrigerating Works* *6* *2* *2*

No. of Steam Cylinders, each Machine *4* No. of Compressors *2* No. of Cranks *2*

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

Propeller shafts *8* Condenser Tubes *12* Condenser Plates *30*

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 Dynamometer				
Capacity				
Diameter of Dynamometer				
Single or Double Two Systems				
Position of Dynamometer				
Main Switch Board				
No. of Circuits to which dynamometer is connected at Main Switch Board				
Particulars of these Circuits				
Navigation	380	3.8	7/2	110
Midships	240	2.4		
Eng. Room	240	2.4		
Off. Accom.	180	1.8		

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



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REFRIGERATORS
ADJUST TO SUIT

No. of Machines	Capacity in tons	Temp. as maintained	Temp. as required	Particulars of Pump in connection with refrigerating fluid and machine worked by refrigerating Machine or Independently
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No. of Steam Engines, each Horse Power	No. of Condensers	No. of Breaks
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Particulars of Pumps in connection with refrigerating fluid and machine worked by refrigerating Machine or Independently

Particulars of Pumps in connection with refrigerating fluid and machine worked by refrigerating Machine or Independently

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ELECTRIC LIGHTING.

Installation Fitted by

R. Picklesgill Houe.

No. and Description of Dynamos

1 compound wound
Candleland Force Mfg. Co.

Makers of Dynamos

Capacity 41 Amperes, at 110 Volts, 350 Revols. per Min.

Current Alternating or Continuous

Continuous

Single or Double Wire System

double

Position of Dynamos

Starting platform

Main Switch Board

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

4

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.
Navigation	12	380 watts	3.8	7/22	110 volts	12	5.38 ohms
Quidships	17	240	2.4	"	"	"	"
Eng. Room.	17	240	2.4	"	"	"	"
apt. Accom.	6	180	1.8	3/20	"	8	8.1800

Total No. of Lights

52

No. of Motors driving Fans, &c.

No. of Heaters

Current required for Motors and Heaters

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

Installation of Auxiliary Switch Boards
1. Position of Main Switch Board
2. Position of Auxiliary Switch Boards
3. Position of Fuses
4. Position of Cables
5. Position of Wires
6. Position of Lamps
7. Position of Motors
8. Position of Compressors
9. Position of Pumps
10. Position of Valves
11. Position of Pipes
12. Position of Tanks
13. Position of Hatches
14. Position of Doors
15. Position of Windows
16. Position of Ventilators
17. Position of Smokestacks
18. Position of Chimneys
19. Position of Masts
20. Position of Rigging
21. Position of Deck
22. Position of Bulkheads
23. Position of Stairs
24. Position of Ladders
25. Position of Platforms
26. Position of Scaffolding
27. Position of Cranes
28. Position of Hoists
29. Position of Winches
30. Position of Pulleys
31. Position of Ropes
32. Position of Chains
33. Position of Hooks
34. Position of Eyes
35. Position of Pins
36. Position of Nails
37. Position of Screws
38. Position of Bolts
39. Position of Washers
40. Position of Spacers
41. Position of Gaskets
42. Position of Seals
43. Position of O-rings
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97. Position of O-rings
98. Position of Gaskets
99. Position of Seals
100. Position of O-rings

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. 11-044 S.W.G., Largest No. 7-029 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?—

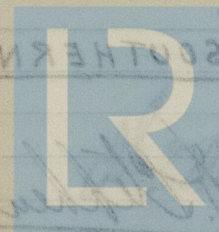
(1) Conductors exposed to Heat or Damp

(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? *yes.*Are all Joints in accessible positions, none being made in Bunkers or Cargo Spaces? *yes.*Are all Hull Connections for Single-Wire Systems made with Screws of large Surface? *yes.*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? *4.5 Megaohms.*

Ohms.

Is the Installation supplied with a Voltmeter? *yes.*" " " an Ampere Meter *yes.*Date of Trial of complete Installation *5-8-30*Duration of Trial *6 hours.*Have all the requirements of Section 42 been satisfactorily carried out? *yes.*

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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.*

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

Are they properly secured, No. 1044

The above correctly describes the Machinery of the S.S. **SOUTHERN STAR**

as ascertained by me 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. 3050 Sq. ft.	:	:	:
G.S. " "	:	:	:

DONKEY BOILERS.

H.S. " Sq. ft.	:	:	:
G.S. " "	:	:	:
	£	:	:

ENGINES.

L.P.C. 23 Cub. ft.	:	:	:
	£	:	:

Testing, &c. ...	:	:	:
	£	:	:

Expenses ...	:	:	:
Total ... £	:	:	:

It is submitted that this Report be approved,

W. H. King
Chief Surveyor.

Approved by the Committee for the Class of M.B.S.* on the 26th November 1930.

Fees advised

Fees paid

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Secretary.



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