

No. 2618

THE BRITISH CORPORATION REGISTER
OF SHIPPING AND AIRCRAFT

Report No. 2692 No. in Register Book 4249

Ship "SOLVRA"

Makers of Engines MESSRS SMITH'S DOCK & CO. LTD.

Works No. 508

Makers of Main Boilers R. & W. HAWTHORN LESUE LTD.

Works No. 9969/3

Makers of Donkey Boiler.....

Works No.

MACHINERY

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005061-005068-0172

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Report No. No. in Register Book

Received at Head Office

December 21, 1934

Surveyor's Report on Engines, Boilers, and Auxiliary
Machinery of ~~Single Triple~~ Screw WHALE CATCHER
"SOLVRA"

Official No. 164382 Port of Registry LEITH

Registered Owners THE SOUTH GEORGIA CO. LTD.

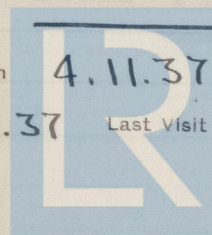
Engines Built by MESSRS SMITH'S DOCK & CO. LTD.
at SOUTH BANK-ON-TEES.

Main Boilers Built by R+W. HAWTHORN LESLIE & CO. LTD.
at NEWCASTLE-ON-TYNE

Donkey " " _____
at _____

Date of Completion 4.11.37

First Visit 18.3.37 Last Visit 4.11.37 Total Visits 48



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GENERAL DESCRIPTION AND TRIAL PARTICULARS

Works No. **508** No. of Sets **ONE**
 Description **TRIPLE EXPANSION SURFACE CONDENSING RECIPROCATING STEAM ENGINE**
 Date of Harbour Trial **1.11.37**
 „ Trial Trip **4.11.37**
 Trials run **FROM R. TEES TO R. TYNE**
 Were Engines tested at full power under Sea-going conditions? **YES**
 Draught of Ship Loaded Draught on Trial **11' 4"**
 B.H.P. or I.H.P. Developed, **1938** Revs. per Min. **150**
 Boiler Pressure = **225** lbs. I.P. Receiver = **66** lbs. 2nd I.P. = — lbs.
 L.P. „ = **10** lbs. Vacuum = **25** ins.
 Mean Ind. Pressure = — Max. Initial Pressure = —
 Speed of Ship on Trial **NO SPEED TAKEN** Knots.
 Builder's estimated data :—
 B.H.P. or I.H.P. **1850** Revs. per min. **150** Speed **15.0**

REMARKS

RECIPROCATING STEAM ENGINES

No. of Cylinders each Engine **3** No. of Cranks **3**
 Diars of Cylinders **17 3/4" x 30 1/2" x 52"** Stroke **30"**
 Cubic feet in each L.P. Cylinder **36.87**
 Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cyl.? **YES**
 „ „ „ each Receiver? **YES**
 Type of H.P. Valves, **PISTON SLIDE VALVE**
 „ 1st I.P. „ **ANDREWS' & CAMERON BALANCED SLIDE VALVE**
 „ 2nd I.P. „ —————
 „ L.P. „ **ANDREWS' & CAMERON BALANCED SLIDE VALVE**
 „ Valve Gear **STEPHENSON'S LINK MOTION**
 „ Condenser **SURFACE** Cooling Surface **2450** sq. ft.
 Diar. of Piston Rods (plain part) **5 1/4"** Screwed part (bottom of thread) **3.8** Material **I.S.**
 „ Connecting Rods (smallest part) **5"** Material **I.S.**
 „ Crosshead Gudgeons **5 3/4"** Length of Bearing **6 1/2"** Material **I.S.**
 No. of Crosshead Bolts (each) **2** Diar. over Thrd. **2 1/2"** Thrds. per inch **6** Material **I.S.**
 „ Crank Pin „ „ **2** „ **3"** „ **6** „ **I.S.**
 „ Main Bearing „ „ **2** „ **2 5/8"** „ **6** „ **I.S.**
 „ Main Bearings **6** Length of Bearings **13 1/4"**
 „ Holding Down Bolts, each Engine **69** Diar. **1 1/2"** No. of Chocks (Metal) **69**
 Are Engines bolted to Tank Top or to Built Seat? **BUILT SEAT**
 Are Bolts tapped through Tank Top and fitted with Nuts Inside? —————
 If not, how are Bolts fitted? **BOLTS FITTED THROUGH SEAT**

REMARKS



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STEAM TURBINES

Type of Turbines

Arrangements of Turbines

No. of H.P. Rotors I.P. Rotors L.P. Rotors Astern Rotors

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

Is Single or Double Reduction Gear used?

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

" " I.P. " "

" " L.P. " "

" " 1st Reduction Shaft

" " 2nd " "

Is Nodal Drive fitted? Diar. of Shafts

Are arrangements such that Steam can be led direct to L.P. Turbine?

" " " either H.P. or I.P. Turbine can exhaust direct to the Condenser?

Description of Lubricating Oil System

Diar. and No. Holding Down Bolts H.P. Turbine I.P. Turbine L.P. Turbine

Metal Chocks " " " " " "

Diar. and No. Holding Down Bolts for Gear Cases

REMARKS

RECIPROCATING OIL ENGINES

Description

No. of Cylinders Diar. of Cylinders Stroke No. of Cranks

Span between Bearing Edges No. of Bearings

Maximum Initial Pressure Mean Indicated Pressure B.H.P. Revs.

Flywheel: Diar. Weight

Crankshaft Balance Weights " Radius of Gyration

Fuel Injection System W.P.

Injection Air Compressors, No. Diars. Stroke W.P.

No. of Injection Air Receivers Capacity W.P. Type

Scavenge Air Units, No. Driven by " "

Superchargers, No. " " " "

Cylinder cooling by No. of Pumps Driven by

Pistons " " " " " "

Lubrication Oil System " " " " "

No. of Coolers Purpose

Material Cylinder Covers Liners Pistons

Are Engines Reversible? Is Gearing used?

How are Engines started?

No. of Starting Air Receivers Capacity W.P. Type

" of Exhaust Gas Boilers W.P. Is Oil Fuel used? Purpose

Diar. of Piston Rods (plain part) Screwed part (bottom of Thread) Material

" " Connecting Rod (smallest part) " "

" " Crosshead Gudgeons Length of Bearing " "

No. of Crosshead Bolts (each) Diar. over Thread Threads per inch " "

" " Crank Pin " " " " " " " "

" " Main Bearing Bolts " " " " " " " "

" " Holding Down Bolts Diar. of Bolts No. of Metal Chocks

RECIPROCATING OIL ENGINES, Contd.

Are Engines Bolted to Tank Top or to Built Seat?

,, Bolts tapped through the Tank Top and fitted with Nuts inside?

If not, how are they fitted?

No. of Auxiliary Engines,

Description

No. of Cylinders Diar. Stroke No. of Cranks

Span between Bearing Edges No. of Bearings

Max. Init. Press. Mean Ind. Press. B.H.P. R.P.M.

No. of Aux. Air Compressors Diar. Stroke
W.P. Driven by

,, Holding Down Bolts No. of Metal Chocks

REMARKS

ELECTRIC PROPULSION GENERATORS AND MOTORS

Description of Generators

Makers of Generators

No. of Generators How Driven

Capacity of each, Kw. Amps. Volts Revs. per min.

Continuous or Alternating Current Phases Periods

Diar. of Armature Shaft No. and length of Bearings

Type of Circuit Breakers Cut out load

Description of Motors

Makers of Motors

No. of Motors How Driven

Output of Motor (each), H.P. Amps. Volts Revs. per min.

Diar. of Motor Shafts No. and length of Bearings

Description of Boosters

Makers of Boosters

No. of Boosters How Driven

Capacity of each, Kw. Amps. Volts Revs. per min.

Description of Control and Switch Gear

REMARKS



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REDUCTION GEARING

Is Single or Double Reduction Gearing employed?

Diar. of 1st Reduction Pinion

" 1st " Wheel

} Width

Pitch of Teeth

Estimated Pressure per lineal inch

Diar. of 2nd Reduction Pinion

" 2nd " Wheel

} Width

Pitch of Teeth

Estimated Pressure per lineal inch

Revs. per min. of 1st Red. Shaft

" " " " 2nd " "

PROPELLERS

No. of Blades each Propeller

Four

Fitted or Solid

SOLID

Material of Boss

STAINLESS STEEL

Material of Blades

STAINLESS STEEL

Diar. of Propellers

11' 0"

Pitch

11' 1 1/2"

Surface (each)

47.5

sq. ft.

No. of Studs for one Blade

Diar. of Studs

FORGINGS

Piston Rods

forged by

GEO. BROWN BROS STOCKTON

Material

1.S.

Connecting Rods

"

ROTHERHAM FORGE & ROLLING MILL

"

1.S.

Crossheads

"

GEO. BROWN BROS. STOCKTON

"

1.S.

Turbine Spindles

"

"

"

"

" Wheels

"

"

"

"

Reduction Gear Shafts

forged by

"

"

"

" " Wheel

"

"

"

"

Generator Armature Shafts

"

"

"

"

Motor

"

"

"

"

"

Crankshaft Pins

forged by

THE FIFE FORCE & CO LTD

"

1.S.

" End

"

Do.

"

1.S.

" Webs

"

Do.

"

1.S.

Thrust Shaft

"

Do.

"

1.S.

Intermediate Shaft

"

"

"

"

Propeller

"

"

THE FIFE FORCE & CO LTD

"

1.S.

Piston Rods

finished by

SMITH'S DOCK & CO LTD.

Diar.

5 1/4"

Connecting Rods

"

Do.

"

5"

Crossheads

"

Do.

"

5 3/4"

Turbine Spindles

"

"

"

"

Reduction Gear Shafts

finished by

"

"

"

" " Wheels

"

"

"

"

Generator Armature Shafts

"

"

"

"

Motor

"

"

"

"

"

Crankshafts

"

THE FIFE FORCE & CO LTD

"

10"

Thrust Shafts

"

Do.

"

10" x 9 5/8"

Intermediate

"

"

"

"

Propeller

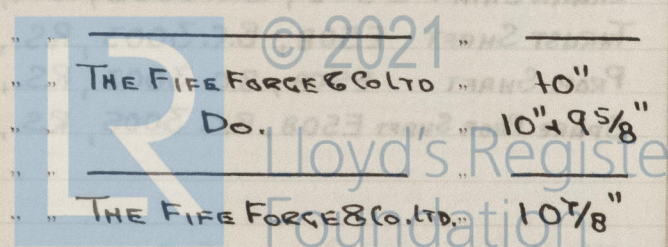
"

"

THE FIFE FORCE & CO LTD.

"

10 1/8"



PUMPS &c.

No. of Air Pumps **ONE** Diar. **22"** Stroke **14"**

Worked by Main or Independent Engines? **INDEPENDENT**

No. of Circulating Pumps **ONE** Bore **12"** Stroke **—**

Type of **CENTRIFUGAL**

Diar. of **Suction from Sea 12"**

Has each Pump a Bilge Suction with Non-return Valve? **YES** Diar. **8"**

What other Pumps can circulate through Condenser? **GENERAL SERVICE PUMP & BILGE PUMP**

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. **9½"** Stroke **21"**

What other Pumps can feed the Boilers? **GENERAL SERVICE PUMP**

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 - DUPLEX BILGE PUMP**

What other Pumps can draw from the Bilges? **1 - DUPLEX G.S. PUMP**

& 2 - BILGE EJECTORS

Are all Bilge Suctions fitted with Roses? **YES**

Are the Valves, &c., 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**

ETCH OF PROPELLER SHAFTS

DUPLICATE OF "SONDRA"



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BOILERS

Works No. **9969/3**
 No. of Boilers **ONE** Type **HAWTHORN - ARMSTRONG
FIVE DRUM WATER TUBE**
 Single or Double-ended _____
 No. of Furnaces in each _____
 Type of Furnaces _____
 Date when Plan approved **29.1.37**
 Approved Working Pressure **225 lbs/0"**
 Hydraulic Test Pressure **388 lbs/0"**
 Date of Hydraulic Test **12.7.37**
 „ when Safety Valves set **1.11.37**
 Pressure at which Valves were set **225 lbs/0"**
 Date of Accumulation Test **1.11.37**
 Maximum Pressure under Accumulation Test **228 lbs/0"**
 System of Draught and Fuel **FORCED DRAUGHT & OIL FUEL ONLY.**
 Can Boilers be worked separately? _____
 Makers of Plates **STEEL CO. OF SCOTLAND LTD.**
 „ **TUBES**
~~Stay-Bones~~ **TUBES LTD. BIRMINGHAM**
 „ Rivets **RIVET BOLT & NUT CO.**
 „ **SADDLES**
~~Furnaces~~ **BARR, THOMPSON LTD. KILMARNOCK**
 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 _____

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RING SIZES

P.V.

S.V.

1 1/32"

1 1/32"

B.C. 4841

T.P. 388 lbs/0"

W.P. 225 lbs/0"

H.E.W.

12.7.37



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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

Diam. of Rivet Holes Pitch

No. of Rows of Rivets in Centre Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diam. of Rivet Holes Pitch

No. of Rows of Rivets in Front End Circumferential Seams

Are these Seams Hand or Machine riveted?

Diam. of Rivet Holes Pitch

No. of Rows of Rivets in Back End Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diam. 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 Boiler

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

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Diar. of Stays Approved

Threads per Inch

" " in Boilers

Material "

Thickness of Front Tube Plates Approved

" " " " in Boilers

Pitch of Stay Tubes at Spaces between Stacks of Tubes

Thickness of Doublings in " " "

" Stay Tubes at " " "

Are Stay Tubes fitted with Nuts at Front End?

Thickness of Back Tube Plates Approved

" " " in Boilers

Pitch of Stay Tubes in Back Tube Plates

" Plain "

Thickness of Stay Tubes

" Plain "

External Diar. of Tubes

Material "

Thickness of Furnace Plates Approved

" " " in Boilers

Smallest outside Diar. of Furnaces

Length between Tube Plates

Width of Combustion Chambers (Front to Back)

Thickness of " " Tops Approved

" " " " in Boilers

Pitch of Screwed Stays in C.C. Tops



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Diam. 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

Diam. " " Approved Threads per Inch

" " " in Boilers

Material " "

Thickness of Combustion Chamber Backs Approved

" " " " in Boilers

Pitch of Screwed Stays in C.O. Backs

Diam. " " Approved Threads per Inch

" " " in Boilers

Material " "

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

Thickness of Combustion Chamber Bottoms

No. of Girders over each Wing Chamber

" " " Centre "

Depth and Thickness of Girders

Material of Girders

No. of Stays in each

No. of Tubes, each Boiler

Size of Lower Manholes



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No. of Bollers	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 _____

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MAIN PRESSURE PIPES

No. of Lengths	1	1
Material	STEEL	STEEL
Brazed, Welded or Seamless	SEAMLESS	SEAMLESS
Internal Diam.	6½"	6½"
Thickness	5/16"	5/16"
How are Flanges secured?	SCREW'D	SCREW'D
Date of Hydraulic Test	4.6.37	12.10.37
Test Pressure	675 lbs	675 lbs

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

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

DESCRIPTION OF OIL FUEL INSTALLATION

SMITHS' PATENT DUPLEX OIL FUEL INSTALLATION

BUILT BY:- SWINNEY BROS. MORPETH

CONSISTING OF:- 2: O.F. HEATERS

2-"SIMPLEX" O.F. PUMPS 3"x4½"x6"

ALSO:- ALTERNATIVE HAND PUMP & BLOWLAMP
HEATER FOR STARTING.

DUPLEX O.F. TRANSFER PUMP 6"x6"x6"

HEATERS MARKED:- B.C. 4275, T.P. 450 lbs G.M.L. 30.4.37

LIST OF HYDRAULIC TESTS

MAIN STOP VALVE T.P. 450 lbs 22.9.37 R.M.B.

H.P. CYL T.P. 338 lbs 10" 9.9.37. R.M.B.

O.F. DISCHARGES T.P. 400 lbs 29.10.37 R.M.B.

O.F. SUCTIONS T.P. 30 lbs 29.10.37. R.M.B.

O.F. TANK HEATING COILS T.P. 450 lbs 25.10.37. J.A.



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EVAPORATORS

No. 2 Type STEAM COILS Tons per Day 6
 Makers G & J. WEIR LTD
 Working Pressure 250lbs Test Pressure 500lbs Date of Test 23.6.37
 Date of Test of Safety Valves under Steam 1.11.37.

FEED WATER HEATERS

No. 1 Type TWO STAGE SURFACE
 Makers CAIRD & RAYNOR
 Working Pressure H.P. 100 L.P. 50 Test Pressure H.P. 200 L.P. 100 Date of Test

FEED WATER FILTERS

No. 2 Type 1-SUCTION & 1-DISCHARGE Size
 Makers { SUCTION :- CARRUTHERS LTD
 DISCHARGE :- CAIRD & RAYNOR LTD
 Working Pressure 225lbs Test Pressure 560lbs Date of Test 2.7.37

STEERING ENGINE

No. 1 Type STEAM Size 2 CYLS TRIAL 7"X6" Date of Test 1.11.37
 Makers MESSRS DONKIN & CO LTD NEWCASTLE STEAM PRESS 800lbs

COMBINED WINDLASS & WINCH

No. 1 Type STEAM Size TRIAL Date of Test 1.11.37
 Makers SMITHS' DOCK & CO'S PATENT - 4 CYLS 7 1/2" X 9"
 MADE BY:- TYNE METAL CO. HEXHAM STEAM PRESS 225lbs

LIST OF AUXILIARY MACHINERY

DUPLICATE OF "SONORA"



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SPARE GEAR

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

OTHER ARTICLES OF SPARE GEAR:-

- * BOILER TUBES:- 24-10W.G.; 12-11W.G.; 12-9W.G.
 12 flange glasses
 1 Eccentric strap complete
 1 guide shoe
 1 set each - Metallic packing for piston + slide rods
 1 set of pads for Michell steam
 50 assorted bolts + nuts
 Bars and sheets of assorted metals
 30 assorted nipples for O.F. burners
 112 " steel sleep for boiler tubes

ADDITIONAL SPARES FOR FOLLOWING:-

- | | |
|----------------------|---|
| Main Feed Pumps | Electric Light Engine |
| Air Pump | Loc. Pump Engine |
| Fan Engine | 12 inchers + Steer ³ / ₄ Engine |
| O.F. Pumps + Heaters | G.S. Bilge Pumps |

DETAILS OF FIRE EXTINGUISHING APPARATUS

BOILER ROOM Perforated steam pipes 1½" bore laid under boiler and sheathed from deck, also:-

2 - sand boxes a operating platform

1 - Chem. extinguisher in port alleyway

ENGINE ROOM 1 - Chem. extinguisher on aft bulkhead

FOR^d ACCOMODATION 1 - Chem. extinguisher at foot of companion.

APT ACCOMODATION 1 - Chem. extinguisher at top of companion.

ALSO 3 - Hose connections on decks and 3-25 ft - lengths of 2" bore canvas hose

FIRE EXTINGUISHERS All chemical extinguishers have a capacity of 2 galls. and are of the "Simples" type made by Mather + Platt

Extinguishers are all placed in accessible positions.



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REFRIGERATING PLANT

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

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

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ELECTRIC INSTALLATION

Installation Fitted by **R. PICKERSGILL & SONS STOCKTON**
 Makers of Dynamos **SUNDERLAND FORGE & ENG. CO. LTD.**
 Description of Dynamos **COMPOUND WOUND, CONTINUOUS RATING**
 No. of Dynamos **1** Revs. **400** Amps. **45.5** Volts **110** Total Capacity **5** Kw.
 Current, Alternating or Continuous **CONTINUOUS** System of Wiring **DOUBLE**
 Position of Dynamos **STARBOARD SIDE OF ENGINE ROOM**
 Makers of Prime Movers **SUNDERLAND FORGE & ENG. CO. LTD**
 Description of Prime Movers **5"X4" STROKE VERT. OPEN TYPE**
 Position of Main Switch Board **STARBOARD SIDE OF E.R. AFT**
 No. of Circuits to which Switches are provided on Main Switch Board **FOUR**
 Particulars of these Circuits

Circuit	Number of Lights	Number of Motors	Number of Heaters	Current Required Amps.	Size of Cable	Rated Maximum Capacity	Insulation Covering	Resistance per Mile Insulation MEGS.
AFT & E.R }	32	-	-	14.5	7/0.36	24	V.I.R + L.C.B	2000
BRIDGE & Amid }	20	-	-	8	7/0.36	24	"	"
FOR & CREWS' ACCOM }	10	-	-	4	3/0.36	12	"	"
WIRELESS	-	-	-	10	7/0.36	24	"	"
Total	62							



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ENGINE ROOM	—	Free box + switches
SALOON		" " "
CREW'S Accom. FOR ^D		" " "
" " AFT		" " "

Nature of Insulation, &c., passing through Bunkers and Cargo Spaces L.C.A.B.

Are all Joints in Cables efficiently made, effectively Insulated and readily accessible

Have Special Requirements for Ships carrying Low Flash Oil }
been complied with

Has it been ascertained by actual Tests that Compasses are not
injuriously affected

What is the Insulation Resistance over the whole System? $2\frac{1}{2}$ meg.

Have the Governing Trials proved satisfactory? Yes

Date of Trial of complete Installation 4.11.37

Duration of Trial 6 hours

Are Cut-outs fitted as follows (to both Conductors of Two-Conductor Systems) :—

On Main Switch Board to Cables of each Main Circuit? *Yes*

On Auxiliary Switch Boards to Cables of each Aux. Circuit? *Yes*

Wherever a Cable is reduced in size? *Yes* To each Lamp Circuit? *Yes*

Are all Cut-outs and Switches easily accessible? *Yes* Are Fuses of standard sizes? *Yes*

Smallest Conductor used $\frac{1}{2}$ mm Largest single wire Conductor used

Nature of Insulation and Protective Covering of Cables in Engine and Boiler Spaces V.I.R + L.C.A.B

" " " in Saloons, State Rooms, &c. V.I.R. & L.C.

"	"	"	Insulated Spaces	_____
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" " " Exposed to Heat or Damp L. C. A. B.

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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. _____

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. "SOLVRA"

as ascertained by ^{us} ~~me~~ from personal examination

R. M. Boles

Geo. M. Luke,
Surveyor to the British Corporation Register
of Shipping and Aircraft.

It is submitted that this Report be approved,

J. P. Adams
Assistant Chief Surveyor.
~~Chief Surveyor.~~

12 JAN 1938

Approved by the Committee for the Class of M.B.S.* on the *12 January 1938*

L. H. Cusby
Secretary.



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GENERAL CONSTRUCTION

1. The building shall be constructed in accordance with the requirements of the code and the

approved plans. *Also* *Also* *Also*

2. The building shall be constructed in accordance with the requirements of the code and the

approved plans. *Also* *Also* *Also*

3. The building shall be constructed in accordance with the requirements of the code and the

approved plans. *Also* *Also* *Also*

4. The building shall be constructed in accordance with the requirements of the code and the

approved plans. *Also* *Also* *Also*

5. The building shall be constructed in accordance with the requirements of the code and the

approved plans. *Also* *Also* *Also*

6. The building shall be constructed in accordance with the requirements of the code and the

approved plans. *Also* *Also* *Also*

7. The building shall be constructed in accordance with the requirements of the code and the

approved plans. *Also* *Also* *Also*

8. The building shall be constructed in accordance with the requirements of the code and the

approved plans. *Also* *Also* *Also*

9. The building shall be constructed in accordance with the requirements of the code and the

approved plans. *Also* *Also* *Also*



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12-3-37

1-4-37



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