

No. 2142

TRANSFERRED TO:
L. R. SYSTEM

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

TRANSFERRED TO:
L. R. SYSTEM

Report No. *1983*

No. in Register Book *3315*

8.3 M/S "EL AMIN"

Makers of Engines *MESSRS. ATLAS-DIESEL.*
STOCKHOLM.

Works No. *50115.*

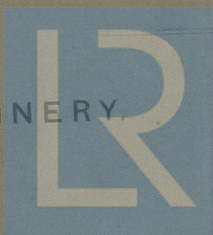
Makers of Main Boilers *NONE*

Works No. *—*

Makers of Donkey Boiler *BOW McCLACHLAN & CO LTD*

Works No. *1157*

MACHINERY



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002385-002400-0033

No.

THE BRITISH CORPORATION FOR THE SURVEY

AND

REGISTRY OF SHIPPING.

Report No. No. in Register Book

Received at Head Office

22nd October 1926.

Surveyor's Report on the New Engines, Boilers, and Auxiliary
Machinery of the ~~Twin Quadruple~~ ^{Single Triple} Screw MOTOR VESSEL
S.O. "EL AMIN."

Official No.

Port of Registry LONDON.

Registered Owners

HALAL SHIPPING CO LTD

Engines Built by MESSRS ATLAS DIESEL. STOCKHOLM.

at SICKLA WORKS.

Main Boilers Built by

NONE

at

Donkey

MESSRS BOW MC LACHLAN

at

PAISLEY.

Date of Completion

13th October 1926.

First Visit

25/10/1925
21/10/1926.

Last Visit

12/6/1926

Total Visits

16

33

49

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INTERNAL COMB. RECIPROCATING ENGINES.

Works No. **50/15** No. of Sets **ONE** Description

**SINGLE ACTING, TWO STROKE CYCLE, RECIPROCATING
REVERSIBLE. (FORCED LUBRICATION)**

No. of Cylinders each Engine **5** No. of Cranks **5**

Diams. of Cylinders **420 M/M.** Stroke **720 M/M.**

Cubic feet in each ~~one~~ Cylinder **WORKING = 100 LITER**

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 Cooling Surface sq. ft.

Diameter of Piston Rods (plain part) **130 M/M** Screwed part (bottom of thread) **74 M/M.**

Material " **TO B.C.'S REQUIREMENTS**

Diam. of Connecting Rods (smallest part) **130 M/M** Material **TO B.C.'S R.S.**

" Crosshead Gudgeons **220** Length of Bearing **770** Material " " "

No. of Crosshead Bolts (each) **4** Diam. over Thrd. **42** Thrds. per inch **11** Material **0.35.C**

" Crank Pin " " **2** " **52** " **11** " **0.35.C.**

" Main Bearings **6** Lengths **370 M/M.**

" Bolts in each **2** Diam. over Thread **49.2** Threads per inch **8** Material **0.35.C**

" Holding Down Bolts, each Engine **42** Diam. **1 5/8"** No. of Metal Chocks **42**

Are the Engines bolted to the Tank Top or to a Built Seat? **TO A BUILT SEAT.**

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

If not, how are they fitted?

6- FITTED BOLTS & CHOCKS IN THRUST BLOCK

Connecting Rods, Forged by **MOTOLA VERKSTAD.**

Piston " " "

Crossheads, " " "

Connecting Rods, Finished by

MESSRS. ATLAS-DIESEL

Piston " " "

Crossheads,

DATE OF SHOP TRIAL, AT STOCKHOLM **" 3-11-26"**

Date of Harbour Trial **AT ALBERT HARBOUR GREENOCK 25-1X-26.**

" Trial Trip **30.9.26. SKELMORLIE MILE**

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.? **BAP. 752.**

Revs. per min. **160**

Pressure in 1st I.P. Receiver, lbs., 2nd I.P., - lbs., L.P., - lbs., Vacuum, - ins.

Speed on Trial **11.123.**

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

data: - **M.E.P. 85/lbs. MAX. I.N.T. = 500/lbs.**

Builders (estimated) I.H.P. ON TEST BED **1026-1066** Revs. per min. **7 156-159**

Estimated Speed **11 knots.**

COOLING OF MAIN ENGINE PARTS IS EFFECTED BY SEA WATER.

THE WATER FROM THE PISTONS DISCHARGING INTO A GALVANIZED TANK

IN BILGE OF E.R. STAR. SIDE, WITH OVERFLOW TO BILGE AND

SUCTION TO M.E. BILGE PUMP. THE WATER FROM JACKETS DIS-

CHARGES DIRECTLY OVERBOARD.

FORCED LUBRICATION OIL IS IN NO. 5 TANK WITH SUCTIONS FROM

**EACH SIDE TO ALLOW ONE SIDE TO BE COOLED OR CLEANED WHILE
USING THE OTHER SIDE.**

THE STARTING OF THE MAIN ENGINES IS EFFECTED BY AIR ACTING

ON THE LOWER SIDES OF PISTONS. THE LOWER SIDES ALSO

WHILE RUNNING SUPPLYING AIR TO AUGMENT THE SCAVENGING PUMP

TURBINE ENGINES.

Works No. Type of Turbines

No. of H.P. Turbines No. of L.P. No. of L.P. No. of Stern

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

Is Single or Double Reduction Gear employed?

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 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 Splindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

" Wheels forged or cast by

TURBO-ELECTRIC MACHINERY DESCRIPTION OF INSTALLATION.

THE WATER COOLING & LUBRICATING OIL PUMPS ARE IN DUPLICATE AND ARE OF THE PLUNGER TYPE PLACED VERTICALLY ONE PAIR (I.E. ONE OIL, & ONE WATER) EACH SIDE OF THE TUNNEL SHAFT WITH 1 CYL. AND SPROCKETS BEING KEYED TO THE SHAFT DRIVING PUMPS BY CHAINS.

WATER PUMPS = $4\frac{1}{2}$ " DIA 8" STROKE O.A.; L. OIL PUMPS = 3" DIA 6" STROKE O.A.

FLYWHEEL.

DIA = $1700^M/M$ = D WEIGHT = 4100 Kg. = G $GD^2 = 6200 KGM^2$.

MAX. INT. PRESS. = $35^{KG}/CM^2$ EST. MEAN PRESS. = $6^{KG}/CM^2$.

NO. OF MAIN BEARINGS = 6 LENGTH = $370^M/M$ DIST between EDGES = $630^M/M$.

T

SYSTEM OF GOVERNING. CENTRIFUGAL GOVERNOR COUPLED TO SUCTION VALVES OF FUEL PUMPS.

PARTICULARS OF FUEL PUMPS. PLUNGER TYPE. ONE PUMP FOR EACH CYLINDER SUPPLY CONTROLLED BY LENGTH OF STROKE



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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

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 "

" 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

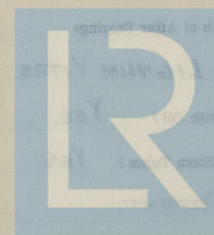
Turbine Spindles forged by

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?

SOLID.

No. of Lengths in each

ONE

Angle of Cranks

$$\frac{360}{5} = 72^\circ$$

Diar. by Rule

270.5 in.

Actual

275 in.

In Way of Webs

" of Crank Pins

275

Length between Webs

280 in.

Greatest Width of Crank Webs

375 in.

Thickness

152 in.

Least " "

Diar. of Keys in Crank Webs

Length

" Dowels in Crank Pins

Length

Screwed or Plain

No. of Bolts each Coupling

6

Diar. at Mid Length

65 in.

Diar. of Pitch Circle

410 in.

Greatest Distance from Edge of Main Bearing to Crank Web

23 in.

Type of Thrust Blocks

MICHEL

No. " Rings

1

Diar. of Thrust Shafts at bottom of Collars

260 in.

No. of Collars

1

" " Forward Coupling

260 in.

At Aft Coupling

212 in.

Diar. of Intermediate Shafting by Rule

190 in.

Actual

8.125"

No. of Lengths

ONE

No. of Bolts, each Coupling

Diar. at Mid Length

Diar. of Pitch Circle

Diar. of Propeller Shafts by Rule

8.24"

Actual

9.25"

At Couplings

9 5/16"

Are Propeller Shafts fitted with Continuous Brass Liners?

YES.

Diar. over Liner

8' - 7"

Length of After Bearings

Of what Material are the After Bearings composed?

LIGNUM VITAE

Are Means provided for lubricating the After Bearings with Oil?

YES.

VICKERS PATENT

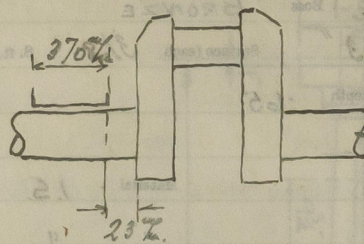
" " to prevent Sea Water entering the Stern Tubes?

YES.

If so, what Type is adopted?

VICKERS PATENT.

SKETCH OF CRANK SHAFT.



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No. of Blades each Propeller **4** Fitted or Solid? **SOLID**
 Material of Blades **BRONZE** Boss **BRONZE**
 Diam. of Propellers **8'-11 7/8"** Pitch **8'-3"** Surface (each) **3/8** S. ft.
 Coefficient of Displacement of Vessel at 1/2 Moulded Depth **.65**

Crank Shafts Forged by **F. SCHICHAU** Material **1.5**
 " Pins " " " " "
 " Webs " " " " "
 Thrust Shafts " **MOTOLA VERTESTAD** " "
 Intermed. " **LANGLEY FORGE CO LTD** " **1.5**
 Propeller " " " " "
 Crank " Finished by **ATLAS DIESEL**
 Thrust " " " " "
 Intermed. " **BOW MCLACHLAN & CO LTD**
 Propeller " " " " "

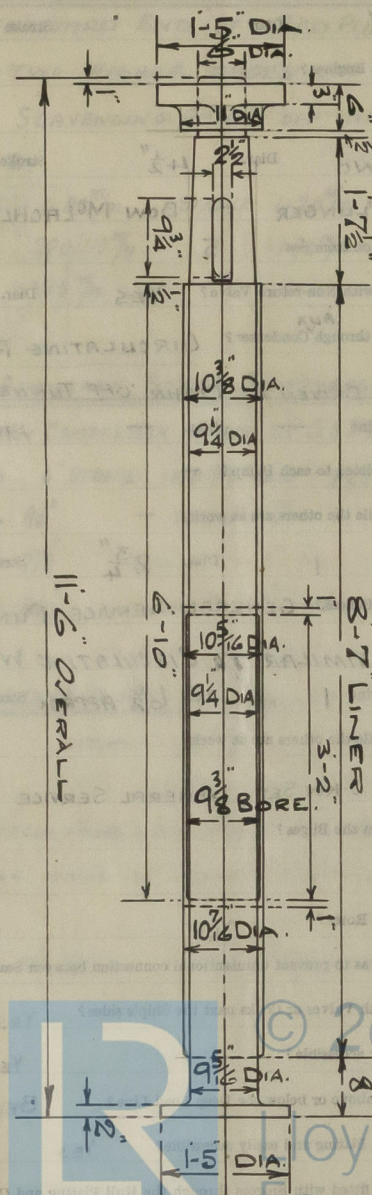
COMPRESSOR SHAFT **KOHLSON JARNVERKS**

STAMP MARKS ON SHAFTS.

TUNNEL & PROPELLOR SHAFTS.

B.C.
 N° 3273.
 R.L.G.
 28.6.26.

SKETCH OF PROPELLER SHAFT.



PUMPS, ETC.

INJECTION

No. of Air Pumps

/

Diar.

Stroke

Worked by Main or Independent Engines?

No. of Circulating Pumps

TWO

Diar.

4 1/2"

Stroke

8"

Type of

"

PLINGER

BOW McLACHLAN & CO LTD.

Diar. of

"

Suction from Sea

5

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

YES

Diar.

2 1/2"

What ~~aux~~ Pumps can circulate through Condenser?

AUX

CIRCULATING PUMP (AUX).

CIRCULATING PUMPS DRIVEN BY CHAIN OFF TUNNEL SHAFTING.

SEE PAGE 5

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

1

Diar.

2 3/4"

Stroke

5"

What other Pumps can feed the Boilers?

GENERAL SERVICE PUMP.

LUBRICATING PUMPS SIMILAR TO CIRCULATING WATER PUMPS

SEE PS.

No. of Bilge Pumps on Main Engine

1

Diar.

6 1/2" APPROX

Stroke

6" APPROX

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

-

No. of Independent Bilge Pumps

3-KW SET, GENERAL SERVICE

What other Pumps can draw from the Bilges?

Are all Bilge Suctions fitted with Roses?

YES

Are the Valves, etc., so arranged as to prevent unintentional connection between Sea and Bilges?

YES

Are all Sea Connections made with Valves or Cocks next the Ship's sides?

YES.

Are they placed so as to be easily accessible?

YES

Are the Discharge Chests placed above or below the Deep Load Line?

BELOW

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 Planges

on the Outside?

YES.

— MAIN ENGINE COMPRESSOR. —

FITTED IN FORWARD END OF BED PLATE DRIVEN BY
CRANKSHAFT. TWO HIGHER STAGES OFF FORWARD CRANK.
LOW STAGE & SCAVENGING PUMP OFF NEXT CRANK.
NOS STAGES. 3.

STAGE 1. DIA = 400^{mm}/m. STROKE 420^{mm}/m. PRESS. 4^{kg/cm²}. 35^{mm}/m DIA
" 2. " 290^{mm}/m. " 190^{mm}/m. " 25 " 25 "
" 3. " 115^{mm}/m. " 70 " 11 "

SAFETY
VALVES

— AUXILIARY STEAM COMPRESSOR. —

TANDEM STEAM DRIVEN COMPRESSOR MADE BY G & J WEIR.

STEAM CYL. = 10 1/2" DIA, 6" STROKE 1000/lbs PRESS. 82 CF AIR. PER MIN. 450 REVS.

STAGE 1. DIA = 9 1/2" STROKE = 6" PRESS. 40/lbs.

" 2. " = 7 7/8" " = 6" " 265/lbs.

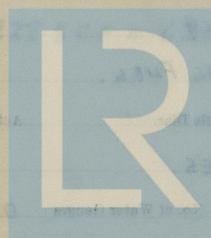
" 3 " = 2 1/2" " = 6" 1000/lbs.

— SCAVENGING PUMP. —

DIA. = 680^{mm}/m. STROKE = 420^{mm}/m = PRESS. = 0.2 KG/CM².

ONE COMBINED CIRCULATING & AIR PUMP FOR AUXILIARY STEAM
CONDENSER ALL MADE BY BOW McLACHLAN & CO LTD.

STEERING ENGINE NO 3924 BOW McLACHLAN & CO LTD.



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BOILERS.

Works No. 1157.

No. of Boilers ONE Type CYLINDRICAL MULTITUBULAR.

Single or Double-ended SINGLE END FIRED.

No. of Furnaces in each ONE.

Type of Furnaces PLAIN.

Date when Plan approved 2-12-25

Approved Working Pressure 100 lbs

Hydraulic Test Pressure 200 lbs.

Date of Hydraulic Test 6-5-26

„ when Safety Valves set 21-9-26

Pressure at which Valves were set 100 lbs.

Date of Accumulation Test 21-9-26

Maximum Pressure under Accumulation Test 102 lbs.

System of Draught WALLSEND OIL BURNING HEATED AIR 8"-20'.

Can Boilers be worked separately? ONE BOILER ONLY.

Makers of Plates THE CONSETT IRON CO.

„ Stay Bars LANARKSHIRE STEEL CO.

„ Rivets RIVET BOLT & NUT CO. LTD.

„ Furnaces THOS. PIGGOTT & CO. LTD.

Greatest Internal Diam. of Boilers 6'-11 1/8"

„ „ Length „ 8'-4 3/8"

Square Feet of Heating Surface each Boiler 469.

„ „ Grate „ „ OIL FUEL.

No. of Safety Valves each Boiler 2 Rule Diam. Actual 2"

Are the Safety Valves fitted with Easing Gear? YES.

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

„ Test Cocks „ TWO. „ Salinometer Cocks ONE

BC TEST
N° 4940
T.P. 200 lbs.
W.P. 100 lbs.
RLG
6-5-26.

— STARTING AIR RESERVOIRS. —
MADE IN STOCKHOLM SWEDEN.

ONE

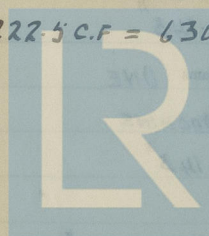
CYLINDRICAL HORIZONTAL.

3-12-25.
213.35 lbs = 15 KG/cm².
426.7 lbs. = 30 "

30-9-26.
220 lbs.
30-9-26.
233 lbs.

4'-9.07" DIA.
12'-11.59" LEN.

- CAPACITY 222.5 C.F. = 6300 LITRES.



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Diar. of Stays Approved — Threads per Inch —

" " in Boilers

Material " —

Thickness of Front Tube Plates Approved $\frac{11}{16}$ "

" " " " in Boilers $\frac{11}{16}$ "

Pitch of Stay Tubes at Spaces between Stacks of Tubes $1-0\frac{1}{2}" \times 7"$

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 $\frac{9}{8}"$

" " " in Boilers "

Pitch of Stay Tubes in Back Tube Plates $10\frac{1}{2}" \times 7"$

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

Thickness of Stay Tubes $\frac{3}{8}"$

" Plain " $11/16$

External Diar. of Tubes $2\frac{1}{2}"$

Material " IRON.

Thickness of Furnace Plates Approved $\frac{19}{32}"$

" " " in Boilers "

Smallest outside Diar. of Furnaces $2'-11\frac{5}{16}"$

Length between Tube Plates $6'-0"$

Width of Combustion Chambers (Front to Back) $1'-9\frac{7}{8}"$

Thickness of " " Tops Approved $\frac{15}{32}"$

" " " in Boilers "

Pitch of Screwed Stays in O.C. Tops $8" \times 7\frac{1}{4}"$

— AIR BOTTLES. —

INJECTION AIR BOTTLE.

NO. 1.

DIA./INT. 300^m/m

WP. 70^{KG}/cm²

T.P. 140 "

APPROVED. 3-12-25.

CAPACITY. 135 litres.

LENGTH. 2000^m/m.

THICKNESS. 17.5^m/m.

DATE EC. 9-6-26 PF 140^{KG}/cm².

SPARE AIR BOTTLES.

2 " "

350^m/m.

70^{KG}/cm².

140 "

3-12-25.

330 litres.

3500^m/m.

21^m/m.



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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	—
Height of Firebox Crowns above Fire Grate	—	Width of Overlap	—
Are Firebox Crowns Flat or Dished?	—		
External Radius of Dished Crowns	—	Thickness of Plates	—
No. of Crown Stays	—	Diar.	—
External Diar. of Firebox at Top	—	Bottom	—
No. of Water Tubes	—	Ext. Diar.	—
Material of Water Tubes	—	Thickness	—
Size of Manhole in Shell	—		
Dimensions of Compensating Ring	—		
Heating Surface, each Boiler	—	Grate Surface	—

SUPERHEATERS.

Description of Superheaters	—
Where situated?	—
Which Boilers are connected to Superheaters?	—
Can Superheaters be shut off while Boilers are working?	—
No. of Safety Valves on each Superheater	—
Are „ „ fitted with Basing Gear?	—
Date of Hydraulic Test	—
Date when Safety Valves set	—

TAYLOR'S MAIN STEAM PIPES

Fire Pipe	33" diam.	Material	1-2"	No. of Joints
Hot Tank	35"	Material	2-2"	Material
No. 1	35"	Material	2-2"	Internal, Welded or Seamless
No. 2	44"	Material	2-2"	Internal Diam.
No. 3	35"	Material	2-2"	Thickness
No. 4	5"	Material	2-2"	How are Flanges secured?
Water Pipe	10"	Material	1-2"	Date of Hydraulic Test
Emergency	10"	Material	1-2"	Test Pressure
Oil	2"	Material	2"	No. of Joints
Base	3"	Material	3"	Material
		Internal, Welded or Seamless		Internal Diam.
No. 1 Hold	2-2"	2	Thickness	How are Flanges secured?
No. 2	2-2"	2	Date of Hydraulic Test	Test Pressure
No. 3	1-2"			
No. 4	1-2"			
Emergency	1-2"			



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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

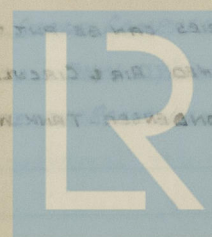
Test Pressure

TANKS & SUCTIONS.

FORE PEAK.	33 TONS.	FRESH WATER	1-2½"	W.T.
Nº1. TANK.	35 "	BALLAST	2-2½"	C.D.
Nº2 "	23 "	FRESH WATER	2-2"	"
Nº3 "	46 "	OIL FUEL	2-2"	"
Nº4 "	33 "	" "	2-2"	"
Nº5 "	5 "	LUBRIC. OIL.	2-2"	"
AFTER PEAK	10 "	BALLAST.	1-2½"	
COFFERDAM BETWEEN NOS 2 & 3 TANKS			1-2".	
BALLAST MAIN =			2½"	
OIL	"		2"	
FRESH WATER	"		2"	
BILGE	"		3"	

BILGES SUCTIONS.

Nº1 HOLD	2-2½"	2
Nº2 "	2-2½"	2.
E.R.	1-2½"	
G.S. DIRECT	1-2½"	
EMERGENCY	1-2½"	



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EVAPORATORS.

No.	Type	Tons per Day
Makers	NONE	
Working Pressure	Test Pressure	Date of Test
Date of Test of Safety Valves under Steam		

FEED WATER HEATERS.

No.	Type	
Makers	NONE	
Working Pressure	Test Pressure	Date of Test

FEED WATER FILTERS.

No.	Type	Size
Makers	NONE	
Working Pressure	Test Pressure	Date of Test

MAIN ENGINE PUMP. DRIVEN BY LEVERS.

SUCTIONS:- PISTON COOLING TANK, SEA, BILGE,

DISCHARGE:- OVERBOARD, DECK.

STEERING ENGINE BOWMELACHLAN & CO. LTD. N^o 3924.

THE EXHAUST STEAM FROM AUXILIARIES CAN BE PUT THROUGH AN AUX.
CONDENSER CONNECTED TO A COMBINED AIR & CIRCULATING PUMP.
THE CONDENSATE GOING INTO A CONDENSER-TANK WITH CONNECTION
TO THE FEED PUMP.

LIST OF DONKEY PUMPS.

PUMPS	MAKERS	N ^o .	SIZE.
GENERAL SERVICE	DAWSON & DOWNIE	7170	6" x 4" x 6"
SUCTIONS:- BALLAST, BILGE DIRECT, SEA, BILGE MAIN, N ^o 5 TANK (LUB.)			
N ^o 2 FW. TANK - FORE PEAK, FUEL TANKS (N ^{os} 3 & 4)			
DISCHARGES:- OVERBOARD, M.E. CIR. WATER, DECK, BALLAST,			
BOILER, OIL, FIRE HOSE.			

TRANSFER OIL.

SUCTIONS:- FUEL OIL DRAIN TANK, D.B. OIL TANKS, N^o 5 LUB. TANK,

DISCHARGES:- BOILER SETTLING TANK, D.S. TANKS, M.E. FORCED LUB.

BOILER FEED

DAWSON & DOWNIE 7180. 4" x 2 3/4" x 5".

SUCTIONS:- DRAIN TANK, SEA, N^o 2 FEED TANK,

DISCHARGE:- BOILER, DECK.

3-KW. SET

PELAPONE ENG. CO.

SUCTIONS:- SEA, BILGE DIRECT, BALLAST.

DISCHARGE:- OVERBOARD, DECK, M.E. CIR., FIRE HOSE.

THE ABOVE 3-KW. PUMP IS DRIVEN BY A PETROL-PARAFFIN ENGINE
WITH THE FOLLOWING ARRANGEMENT
FOR END TWO STAGE COMPRESSOR COUPLED TO PET. PAR. ENGINE
COUPLED TO 3KW. DYNAMO COUPLED TO PUMP. ALL ONE UNIT.
COMPRESSOR MADE BY REAYALL'S - N^o 18761.

OTHER ARTICLES OF SPARE GEAR:—

- 1- SET OF PACKING RINGS FOR ONE PISTON ROD.
- 2- TELESCOPIC PIPES FOR COOLING INLET
- 1- LUBRICATING OIL PUMP. FOR WORKING CYLS.
- 1- LENGTH OF EACH SIZE PIPING FOR.
INJECTION, STARTING AIR, FUEL OIL.
- 1- SET OF SPRINGS FOR ONE MAIN ENGINE.

LIST OF CIRCUITS

No. of Circuit	Description of Circuit	No. of Lamps	No. of Motors	No. of Heaters

ELECTRIC LIGHTING.

Installation Fitted by **H.T. ROBERTSON & CO. GOVAN.**

No. and Description of Dynamos
**1-3KW.
1-10KW.**

Makers of Dynamos **PELAPONE ENG. CO. N° 6728 FLATHER & CO.**

Capacity " **1-3KW. 27** Amperes, at **110.** Volts, **850.** Revols. per Min.
1-10KW. 91

Current Alternating or Continuous **CONTINUOUS RATING.**

Single or Double Wire System **DOUBLE WIRE SYSTEM.**

Position of Dynamos **STAR SIDE 10KW. SET. PORT SIDE 3KW.**

" Main Switch Board **AFT SIDE OF FORD ENGINE ROOM BULKHEAD.**

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

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.	4	100w.				100%.	6000.
	11	30w.	6.5	7/029			
F. ACCOMMODATION	18	30w.					
	5	60w.	8	7/029			
A "	40	30w.					
	5	60w.	13.	7/029			
WIRELESS.			30/35	7/052			
ENGINE ROOM.	28	30w.					
	2	100w.	16	7/036			
	2	MOTORS 1/2 H.P.	11	7/036			
WORKSHOP MOTOR.							
TURNING			38.	7/064			

Total No. of Lights **113.** No. of Motors driving Fans, &c. **4 + 13 fans** No. of Heaters

Current required for Motors and Heaters **FANS. 55 A. L. 7 A.**

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

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. $\frac{1}{012}$ S.W.G., Largest, No. $\frac{1}{014}$ S.W.G.

How are Conductors in Engine and Boiler Spaces protected? LEAD COV^d & ARMOUR^d.

" 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 IN GALV^d TUBES.

(3) " " Deck Beams or Bulkheads BUSHES OR GLANDS.

Are all Joints in Cables properly soldered and thoroughly insulated so that the efficiency of the Cables

is unimpaired? NONE.

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 MEGOHM.

Ohms.

Is the Installation supplied with a Voltmeter? YES

" " " an Ampere Meter? YES

Date of Trial of complete Installation 30-9-26 Duration of Trial 6 hours.

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

THE 10 KW. SET CONSISTS OF A 4-CYLINDER PETROL-PARAFFIN
ENGINE N^o 2672 DIRECTLY COUPLED TO A 4-POLE GENERATOR
N^o 6728 110V. 91A. 850 REVS.



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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. **EL AMIN**

as ascertained by ^{us} from personal examination

*For Surveys and tests carried out at Atlas-Deine, Stockholm.
Per Foreman.*

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

Fees—

MAIN BOILERS.

		£	s.	d.
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.

Oliver King
Chief Surveyor.

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

3rd November 1924

Fees advised

Fees paid



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