

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 7817.

Port of Dundee Date of First Survey 2 Feb. 1914 Date of Last Survey 23 Feb. 1914 No. of Visits 4  
 No. in Reg. Book 815 on the Iron or Steel Tug Sc. Mast Sr. "Sebastian" Port belonging to London  
 Built at Dundee By whom Caledon S.B. & E. Co. Ltd. When built 1914-2  
 Owners Lane & Macandrew Owners' Address London  
 Yard No. 232 Electric Light Installation fitted by The Sunderland Forge & S. Co. Ltd. When fitted 1914

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Multipolar Compound wound dynamo direct coupled to open type inverted engine both by Sunderland Forge Co.,  
 Capacity of Dynamo 90 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed After end of engine room Whether single or double wire system is used Double  
 Position of Main Switch Board Close to dynamo having switches to groups Six of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each 1 in wheel house with switches for navigation light and 1 outside each pump room with switches for same.  
 If fuses are fitted on main switch board to the cables of main circuit Yes and on each auxiliary switch board to the cables of auxiliary circuits Yes and at each position where a cable is branched or reduced in size Yes and to each lamp circuit Yes  
 If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes  
 Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 100% per cent over the normal current  
 Are all fuses fitted in easily accessible positions Yes Are the fuses of standard dimensions Yes If wire fuses are used are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit Yes  
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes.  
 Total number of lights provided for 134 arranged in the following groups:—  
 A 38 lights each of 18 candle power requiring a total current of 21.28 Amperes  
 B 24 lights each of 16 candle power requiring a total current of 13.44 Amperes  
 C 23 lights each of 16 candle power requiring a total current of 12.38 Amperes  
 D 21 lights each of 16 candle power requiring a total current of 11.76 Amperes  
 E 20 lights each of 16 candle power requiring a total current of 11.20 Amperes  
2 Mast head light with 1 lamps each of 32 D.F. candle power requiring a total current of 2.24 Amperes  
2 Side light with 1 lamps each of 32 D.F. candle power requiring a total current of 2.24 Amperes  
2 Cargo lights of 5 x 16 candle power, whether incandescent or arc lights incandescent,  
 If arc lights, what protection is provided against fire, sparks, &c. None fitted.  
 Where are the switches controlling the masthead and side lights placed in Wheelhouse.

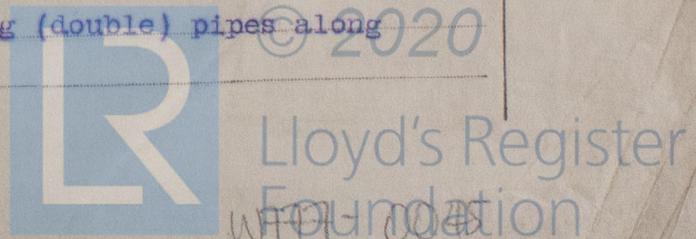
## DESCRIPTION OF CABLES.

Main cable carrying 75 Amperes, comprised of 19 wires, each 16 S.W.G. diameter, .060 square inches total sectional area  
 Branch cables carrying 21 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area  
 Branch cables carrying 13 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .0070 square inches total sectional area  
 Leads to lamps carrying 2.24 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .00181 square inches total sectional area  
 Cargo light cables carrying 2.3 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .00322 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

In berths etc., Pure rubber vulcanised rubber taped and lead covered.  
 Engine Room etc., do. and armoured and braided.  
 Mains and Pump room, do. and braided and run in iron pipes.  
 Joints in cables, how made, insulated, and protected  
There are none.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances ✓ Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage None  
 Are there any joints in or branches from the cable leading from dynamo to main switch board No.  
 How are the cables led through the ship, and how protected V.I.R. cables run in strong (double) pipes along fore and aft gangway.



**DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.**

Are they in places always accessible Yes.

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Iron pipes.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Armoured cable.

What special protection has been provided for the cables near boiler casings do.

What special protection has been provided for the cables in engine room do.

How are cables carried through beams holes bushed with fibre through bulkheads, &c. W.T. Glands.

How are cables carried through decks W.T. Deck tubes.

Are any cables run through coal bunkers No or cargo spaces No or spaces which may be used for carrying cargo, stores, or baggage No

If so, how are they protected ✓

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage No.

If so, how are the lamp fittings and cable terminals specially protected ✓

Where are the main switches and fuses for these lights fitted ✓

If in the spaces, how are they specially protected ✓

Are any switches or fuses fitted in bunkers No.

Cargo light cables, whether portable or permanently fixed Portable. How fixed ✓

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel ✓

How are the returns from the lamps connected to the hull ✓

Are all the joints with the hull in accessible positions ✓

Is the installation supplied with a voltmeter Yes. and with an amperemeter Yes, fixed on Switchboard.

**VESSELS BUILT FOR CARRYING PETROLEUM.**

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas Yes.

Are any switches, fuses, or joints of cables fitted in the pump room or companion No.

How are the lamps specially protected in places liable to the accumulation of vapour or gas Special gas tight fittings used.

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

**PRO THE SUNDERLAND FORGE & ENGINEERING CO., LTD.**

*Electrical Engineers*

Date 12/2/14.

**COMPASSES.**

Distance between dynamo or electric motors and standard compass Director about 166 ft.

Distance between dynamo or electric motors and steering compass " 164 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>11.20</u>	Amperes	<u>8</u>	feet from standard compass	<u>4</u>	feet from steering compass
A cable carrying	<u>.56</u>	Amperes	<u>4</u>	feet from standard compass	<u>led into</u>	feet from steering compass
A cable carrying	<u>.56</u>	Amperes	<u>led into</u>	feet from standard compass	<u>4</u>	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power Yes.

The maximum deviation due to electric currents, etc., was found to be 9 1/2 degrees on ✓ course in the case of the standard compass and Wt. degrees on ✓ course in the case of the steering compass.

*Granth Bailey* Builder's Signature. Date 2-2-14

**GENERAL REMARKS.**

*The electric lighting installation of this vessel has been fitted on board under special survey, tested under working conditions and found satisfactory, and eligible, in my opinion, to have record of ELEC. LIGHT.*

It is submitted that this vessel is eligible for **THE RECORD. Elec. light.**

*J.W.D.* *J.P.F.*  
*2/2/14* *James Carnaghan*  
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute FEB. MAR. 6. 1914

**VESSEL**

These particulars are  
Signal Letters (if any)

Official Number.

36642.

o, Date, and Port of Previous  
Whether British or Foreign Built. Whether and if a

British. 0

Number of Decks

Number of Masts

Rigged

Stem

Build

Galleries

Head

Framework and description

vessel

Number of Bulkheads

Number of water ballast

and their capacity in tons

Total to quarter the depth from water

to bottom of keel

No. of Engines.

Description of Engines.

Two Inverse direct acting oil motors of cycle

No. of shafts.

Particulars of Boilers.

Boiler

Description

Number

Iron or Steel

Loaded Pressure

150

GROSS TONNAGE

Under Tonnage Deck

Space or spaces between

Turret or Trunk

Forecastle

Bridge space

Poop or Break

Side Houses

Deck Houses

Chart House

Spaces for machinery

Section 78 (2) of the

1894

Excess of Hatchways

Gross Tonnage

Deductions, as per Com

Registered T

NOTE 1.—The tonnage of

Deck for propel

NOTE 2.—The undermentio

Entrance

Name of Mas

No. of Owners

Name, Residence, an

Sebastian

Place of bus

Manager

Dated 17<sup>th</sup>

(830) (6-862) Wt. 28981

(81762) 20345



© 2020

Lloyd's Register Foundation