

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 16132

Port of Glasgow Date of First Survey ✓ Date of Last Survey 8 June 1898 No. of Visits ✓  
 No. in on the Iron or Steel "S.S. Hebrides" Port belonging to Glasgow  
 Reg. Book L. McCallum & Coy Built at Luton By whom The Ailsa Shipbuilding Co When built 1898  
 Owners L. McCallum & Coy Owners' Address Glasgow  
 Yard No. Electric Light Installation fitted by Cland Hamilton Ltd When fitted 1898-6

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

High Speed Vertical Engine Coupled to Compound Wound Dynamo on same Bedplate.

Capacity of Dynamo 135 Amperes at 60 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed in Engine Room

Position of Main Switch Board in Engine Room having switches to groups A, B and C of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each None

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits yes

Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 50% per cent over the normal current

Are all cut outs fitted in easily accessible positions yes in boxes 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 cut-outs constructed of incombustible materials and fitted on incombustible bases yes.

Total number of lights provided for 123 arranged in the following groups:—

A	<u>29</u>	lights each of <u>2/50, 3/32, &amp; 2 1/16</u>	candle power requiring a total current of <u>29</u>	Amperes
B	<u>46</u>	lights each of <u>10/32, &amp; 3 1/16</u>	candle power requiring a total current of <u>45</u>	Amperes
C	<u>48</u>	lights each of <u>1/32 &amp; 1 1/16</u>	candle power requiring a total current of <u>40</u>	Amperes
D		lights each of	candle power requiring a total current of	Amperes
E		lights each of	candle power requiring a total current of	Amperes
1	Mast head light with <u>1</u> lamps each of <u>32</u>		candle power requiring a total current of <u>1.6</u>	Amperes
2	Side light with <u>1</u> lamps each of <u>16</u>		candle power requiring a total current of <u>1.6</u>	Amperes
	Cargo lights of		candle power, whether incandescent or arc lights	

If arc lights, what protection is provided against fire, sparks, &c.

Where are the switches controlling the masthead and side lights placed in Chart Room

## DESCRIPTION OF CABLES.

Main cable carrying 120 Amperes, comprised of 37 wires, each Nº 16 L.S.G. diameter, .1219 square inches total sectional area  
 Branch cables carrying 45 Amperes, comprised of 19 wires, each Nº 17 L.S.G. diameter, .0479 square inches total sectional area  
 Branch cables carrying 40 Amperes, comprised of 19 wires, each Nº 17 L.S.G. diameter, .0479 square inches total sectional area  
 Leads to lamps carrying .8 Amperes, comprised of 1 wires, each Nº 17 L.S.G. diameter, .0024 square inches total sectional area  
 Cargo light cables carrying Amperes, comprised of wires, each L.S.G. diameter, square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors of tinned Copper wires, insulated with pure india rubber, then vulcanized india rubber, india rubber coated tape and then whole vulcanized together. Then braided with tarred flax and covered with preservative compound  
 Joints in cables, how made, insulated, and protected No Joints in Cables.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux — 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

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 in hard wood casing where necessary in iron pipes



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Foundation



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 *Strong casing*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Teak wood casing*

What special protection has been provided for the cables near boiler casings *Teak Casing*

What special protection has been provided for the cables in engine room *Teak Casing*

How are cables carried through beams *in wooden thimbles* through bulkheads, &c. *in watertight plugs*

How are cables carried through decks *in flanged watertight tubes*

Are any cables run through coal bunkers *yes* or cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage *yes*

If so, how are they protected *iron pipes in bunkers & strong heavy casing in cargo spaces*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *yes*

If so, how are the lamp fittings and cable terminals specially protected *Strong iron wire guards.*

Where are the main switches and cut outs for these lights fitted *On Deck above holds.*

If in the spaces, how are they specially protected

Are any switches or cut outs fitted in bunkers *No*

Cargo light cables, whether portable or permanently fixed 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

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, cut outs, or joints of cables fitted in the pump room or companion

How are the lamps specially protected in places liable to the accumulation of vapour or gas

The installation is *efficiently* supplied with a voltmeter and *also* an amperemeter, fixed *on switchboard*

The copper used is guaranteed to have a conductivity of *98%* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile after 24 hours' immersion in seawater.

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.

For CLAUD HAMILTON, LIMITED.

Electrical Engineers

Date *30.6.98*

COMPASSES.

Distance between dynamo or electric motors and standard compass *on Flying Bridge 53 feet.*

Distance between dynamo or electric motors and steering compass *80 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>22</i>		<i>30</i>	
			<i>8</i>
			<i>8</i>

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 *nil* degrees on *—* course in the case of the standard compass and *—* degrees on *—* course in the case of the steering compass.

*Alia Shipbuilding Co*

Builder's Signature.

Date *29.6.98*

GENERAL REMARKS.

*The Electric lighting & wiring of this vessel appears to be of satisfactory description & have been tried at full power.*

*James Morrison*

Surveyor to Lloyd's Register of British and Foreign Shipping

Committee's Minute

*It is submitted that this installation appears to be in accordance with the Rules.*

*2.7.98*

THE SURVEYOR'S ABILITY NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 14.