

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 32462.

Port of **GLASGOW** Date of First Survey **23.1.13** Date of Last Survey **12.3.13** No. of Visits **12**  
 No. in Reg. Book **62 Sup.** on the Iron or Steel **S/S "LINMERE"** Port belonging to **Manchester**  
 Built at **Port Glasgow.** By whom **Murdoch & Murray** When built **1913.**  
 Owners **H. Watson & Co.** Owners' Address **Haadon & Co.** When fitted **1913**  
 Yard No. **253.** Electric Light Installation fitted by

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*One Compound Wound Dynamo coupled direct on same bed plate to One Double Acting Open Ported Steam Engine*  
 Capacity of Dynamo **65** Amperes at **100** Volts, whether continuous or alternating current **Continuous**  
 Where is Dynamo fixed **Engine Room** Whether single or double wire system is used **Double**  
 Position of Main Switch Board **Alongside Dynamo** having switches to groups **A. B. C. D.** of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each **Pantry - two circuits, Wheel House - six circuits, Steering Gear Space - eight circuits, Engine Room - four circuits**

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 **25** per cent over the normal current  
 Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases **Yes**  
 Total number of lights provided for **103** arranged in the following groups:-  

A	<b>44</b>	lights each of	<b>16</b>	candle power requiring a total current of	<b>26.4</b>	Amperes
B	<b>8</b>	lights each of	<b>1</b>	candle power requiring a total current of	<b>4.8</b>	Amperes
C	<b>33</b>	lights each of	<b>1</b>	candle power requiring a total current of	<b>19.8</b>	Amperes
D	<b>14</b>	lights each of	<b>1</b>	candle power requiring a total current of	<b>8.4</b>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
	<b>2</b>	Mast head light with <b>1</b> lamps each of <b>32</b>		candle power requiring a total current of	<b>2.4</b>	Amperes
	<b>2</b>	Side light with <b>1</b> lamps each of <b>32</b>		candle power requiring a total current of	<b>2.4</b>	Amperes
	<b>5</b>	Cargo lights of <b>5</b> lamps of <b>16</b>		candle power, whether incandescent or arc lights	<b>Included in above</b>	

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

Where are the switches controlling the masthead and side lights placed **Wheel House**

## DESCRIPTION OF CABLES.

Main cable carrying	<b>65</b>	Amperes, comprised of	<b>19</b>	wires, each	<b>15</b>	L.S.G. diameter, <b>.07286</b> square inches total sectional area
Branch cables carrying	<b>26.4</b>	Amperes, comprised of	<b>7</b>	wires, each	<b>15</b>	L.S.G. diameter, <b>.02803</b> square inches total sectional area
Branch cables carrying	<b>19.8</b>	Amperes, comprised of	<b>7</b>	wires, each	<b>16</b>	L.S.G. diameter, <b>.02214</b> square inches total sectional area
Leads to lamps carrying	<b>6</b>	Amperes, comprised of	<b>1</b>	wires, each	<b>18</b>	L.S.G. diameter, <b>.001810</b> square inches total sectional area
Cargo light cables carrying	<b>3</b>	Amperes, comprised of	<b>3</b>	wires, each	<b>20</b>	L.S.G. diameter, <b>.002994</b> square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

*Pure Rubber, Vulcanized Rubber, taped, braided & compounded overall*

Joints in cables, how made, insulated, and protected **No joints, all wires looped in & extension boxes used.**

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 **No joints**

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 **Lead covered in cabins etc, armoured elsewhere**



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 *In Tubes*

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

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 *Fibre tube* through bulkheads, &c. *Stuffing Glands*

How are cables carried through decks *Iron pipes flanged to deck*

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

If so, how are they protected *Armoured*

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

If so, how are the lamp fittings and cable terminals specially protected *Cast iron hinged cover over lamp*

Where are the main switches and cut outs for these lights fitted *Engine Room*

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 *Portable* How fixed *Brass Sockets & Plugs*

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 *✓*

The installation is \_\_\_\_\_ supplied with a voltmeter and \_\_\_\_\_ an amperemeter, fixed *On Main Switch Bed.*

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 copper used is guaranteed to have a conductivity of *99* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *2,500* 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.

*Haddow & Co, Glasgow.*

Electrical Engineers

Date *March 24th 1913.*

COMPASSES.

Distance between dynamo or electric motors and standard compass *80 ft*

Distance between dynamo or electric motors and steering compass *85 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>26.4</i>	<i>16</i>	<i>22</i>	
<i>4.8</i>	<i>10</i>	<i>18</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 *Nil* degrees on \_\_\_\_\_ course in the case of the steering compass.

MURDOCH & MURRAY, LIMITED.

*James Murray*

Builder's Signature.

Date

*29th March /13*

GENERAL REMARKS.

*The installation has been examined, tried and found satisfactory.*

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

*JWD 27/4/13*

*P. J. Brown*

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

GLASGOW 1- APR. 1913

*Elec. Light*



Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.