

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 25670

Port of Glasgow Date of First Survey 4<sup>th</sup> July Date of Last Survey 17<sup>th</sup> Aug<sup>st</sup> No. of Visits 6  
 No. in Reg. Book on the Iron or Steel Huanchaco Port belonging to Liverpool  
 Built at Dalmuir By whom H<sup>m</sup> Beardmore & Co When built 1907  
 Owners Reifel Stevedores Owners' Address \_\_\_\_\_  
 Yard No. \_\_\_\_\_ Electric Light Installation fitted by Messrs. W. Beardmore & Co. Ltd. When fitted Aug<sup>st</sup> 1907

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

One Standard S type dynamo. Direct coupled to single cylinder open type engine by Messrs Boothroyd & Co. Boole.  
 Capacity of Dynamo 200 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed in recess in Engine Room Whether single or double wire system is used Single  
 Position of Main Switch Board Recess in Engine Rm having switches to groups \_\_\_\_\_ of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Auxiliary switchboard on top platform in Engine Rm for large clusters and arc lamps

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   
 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 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 Instructions given.  
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases In every case

Total number of lights provided for 245 arranged in the following groups:—

A	Engine Rm	40 lights each of <u>16</u> candle power requiring a total current of <u>24</u> Amperes
B	Cargo & Arc lamps	60 lights each of <u>16 c.p. and 2-20 amp arc</u> candle power requiring a total current of <u>76</u> Amperes
C	Crew Loo <sup>g</sup> Taft	30 lights each of <u>16</u> candle power requiring a total current of <u>18</u> Amperes
D	General circuit	70 lights each of <u>"</u> candle power requiring a total current of <u>42</u> Amperes
E	Berthing Space	45 lights each of <u>"</u> candle power requiring a total current of <u>27</u> Amperes
2	Mast head light with 1 lamp each of <u>32</u> candle power requiring a total current of <u>2.4</u> Amperes	
2	Side light with 1 lamp each of <u>32</u> candle power requiring a total current of <u>2.4</u> Amperes	
10	Cargo lights of <u>6-16 c.p. each</u> candle power, whether incandescent or arc lights <u>Incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. 2 Arc lamps 20 amp. with square lantern over the arc

Where are the switches controlling the masthead and side lights placed In Chart room

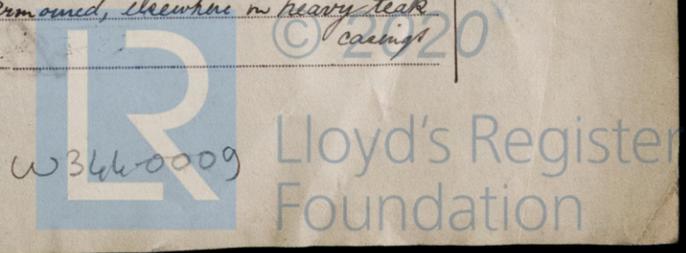
### DESCRIPTION OF CABLES.

Main cable carrying 187 Amperes, comprised of 52 wires, each 14 L.S.G. diameter, .2562 square inches total sectional area  
 Branch cables carrying 76 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0612 square inches total sectional area  
 Branch cables carrying 42 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, .0337 square inches total sectional area  
 Leads to lamps carrying .6 Amperes, comprised of 1 wire, each 72.18 L.S.G. diameter, .0018 square inches total sectional area  
 Cargo light cables carrying 3.6 Amperes, comprised of 234 wires, each 38 L.S.G. diameter, .0066 square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

All 2500 megohm grade.  
Insulated with Pure & vulcanized India rubber, taped, lead covered and Armoured in Eng & Boiler Rm.  
Insulated - - - - - Taped & braided & compounded elsewhere.  
 Joints in cables, how made, insulated, and protected No joints in cables. All lugs soldered with resin as a flux.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux Yes 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 cables in bunkers  
 Are there any joints in or branches from the cable leading from dynamo to main switch board None  
 How are the cables led through the ship, and how protected Engine room Boiler Rm Lead cov<sup>d</sup> & Armoured, elsewhere in heavy teak casing



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

Are they in places always accessible *All cables & wires are accessible*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Solid drawn Steel conduit and Heavy teak casing & cover.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead cord & armoured*

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

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

How are cables carried through beams *Red fibre bushes* through bulkheads, &c. *Where non. W.T. Red fibre bushes*

How are cables carried through decks *in Galvanized Iron deck tubes sealed on top 12" above 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 *Special heavy teak casing & cover*

Are any lamps fitted in ~~coal bunkers~~ or spaces which may at times be used for cargo, ~~stores~~, or baggage *Cargo on battle deck*

If so, how are the lamp fittings and cable terminals specially protected *Special heavy cast iron fittings with gounds.*

Where are the main switches and cut outs for these lights fitted *at Distributing boxes on main deck.*

If in the spaces, how are they specially protected *None*

Are any switches or cut outs 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 *Earthed to the Dynamo frame.*

How are the returns from the lamps connected to the hull *By brass set screws 7/8" dia.*

Are all the joints with the hull in accessible positions *Yes.*

The installation is \_\_\_\_\_ supplied with a voltmeter and \_\_\_\_\_ an amperemeter, fixed *on the Switchboard*

**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 *100* per cent. that of pure copper. *Engineer's Standard*

Insulation of cables is guaranteed to have a resistance of not less than *2500* 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.

*Messrs W. Beardmore & Co. Ltd.* Electrical Engineers Date *23<sup>rd</sup> August 1907*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass on Bridge *100 ft.* and to Wheel House compass *95 ft.*

Distance between dynamo or electric motors and steering compass *Aft 148 ft.*

The nearest cables to the compasses are as follows:—

A <del>wire</del> cable carrying <i>6</i> Amperes <i>77</i> feet from standard compass <i>Double wiring</i> feet from steering compass
A cable carrying <i>27</i> Amperes <i>15</i> feet from standard compass <i>15</i> feet from steering compass
A cable carrying _____ Amperes _____ feet from standard compass _____ 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 *0* degrees on *Straight* course in the case of the standard compass and *0* degrees on *Straight* course in the case of the steering compass.

FOR WILLIAM BEARDMORE & CO. LIMITED

*W. Beardmore* Builder's Signature. Date *28<sup>th</sup> August 1907*

**GENERAL REMARKS.**

*The Electric Lighting installation of this vessel has been tested under full power and found satisfactory.*

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

Committee's Minute *Glasgow - 3 SEP 1907*

*Record "Electric Light"*

*It is sub. that the Record Elec. Light be noted in the Reg. Book.*  
Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 1. 2m.34.