

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No 15424

Port of Glasgow Date of First Survey \_\_\_\_\_ Date of Last Survey 12<sup>th</sup> August No. of Visits \_\_\_\_\_  
 No. in Reg. Book \_\_\_\_\_ on the Iron or Steel Four Mast Screw Steam "Chelucto" Port belonging to Glasgow  
 Built at Glasgow By whom J. Shearer & Son When built 1894  
 Owners Ferry Commissioners Owners' Address Dartmouth Nova Scotia  
 Yard No. 22 Electric Light Installation fitted by Warr & Boulton Ltd. When fitted 14/8/94

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

one Warr & Boulton Shunt wound self regulating dynamo  
Paul's High speed vertical engine fitted with <sup>Paul's</sup> governor.  
 Capacity of Dynamo 40 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Engine room  
 Position of Main Switch Board Engine room having switches to groups A.B.C. of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each 3 - 25 ampere switch fuses on Switch Board  
(main) 3 - 6 way 5 amp fuse boxes 2 in accessible recessed boxes  
1 at Switch board (main)  
 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 no reduction 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 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 all one size  
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes  
 Total number of lights provided for 56 arranged in the following groups:—  
 A 23-16 CP. 1-50 lights each of 23  $\frac{16}{100}$  CP of 50  $\frac{1}{100}$  candle power requiring a total current of 15.4 Amperes  
 B 22-16 CP. 1-50 lights each of \_\_\_\_\_ candle power requiring a total current of 14.8 Amperes  
 C 9-16 CP. lights each of \_\_\_\_\_ candle power requiring a total current of 5.4 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  
2 Mast head light with 2 lamps each of 16 candle power requiring a total current of 2.4 Amperes  
2 4 Side light with 1 lamps each of 16 candle power requiring a total current of 2.4 Amperes  
 Cargo lights of \_\_\_\_\_ candle power, whether incandescent or arc lights \_\_\_\_\_  
 If arc lights, what protection is provided against fire, sparks, &c. None  
 Where are the switches controlling the masthead and side lights placed in wheel houses

### DESCRIPTION OF CABLES.

Main cable carrying 34.4 Amperes, comprised of 19/18 wires, each L.S.G. diameter 0.35/38 square inches total sectional area  
 Branch cables carrying 12.7 Amperes, comprised of 7/18 wires, each L.S.G. diameter 0.1292 square inches total sectional area  
 Branch cables carrying \_\_\_\_\_ Amperes, comprised of \_\_\_\_\_ wires, each L.S.G. diameter, \_\_\_\_\_ square inches total sectional area  
 Leads to lamps carrying 3.15 Amperes, comprised of 7/23 wires, each L.S.G. diameter 0.0323 square inches total sectional area  
 Cargo light cables carrying none Amperes, comprised of \_\_\_\_\_ wires, each L.S.G. diameter, \_\_\_\_\_ square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cables are of concentric type, braided sheath covered, the inner conductor being insulated with fibrous material impregnated with a bituminous solution. <sup>(main)</sup> insulation resistance between outer inner conductors being 1200  $\frac{1000}{\text{mile}}$   
 Joints in cables, how made, insulated, and protected In W.C. patent cast brass junction box Connection is made to part of cable by sweating on brass button, which is protected by thick fibrous disc. by connection is made by sweating lead into pockets of junction.  
 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 Yes  
 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 led on the surface & protected by sheathing of lead.

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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 The system is one concentric one which is thoroughly waterproof, hence none other required.

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

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 No and wood brushes through bulkheads, &c. do

How are cables carried through decks Waterlight oak tubes

Are any cables run through coal bunkers yes or cargo spaces no or spaces which may be used for carrying cargo, stores, or baggage None.

If so, how are they protected by a box for steering rope.

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

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

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

If in the spaces, how are they specially protected

Are any switches or cut outs fitted in bunkers

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 supplied with a voltmeter and an amperemeter, fixed at dynamo.

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 1200 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.

MAVOR & COULSON, Ltd.

Sam Mavor

Electrical Engineers

Date 3<sup>rd</sup> Sept 1897

COMPASSES.

Distance between dynamo or electric motors and standard compass 36 + 76 feet respectively.

Distance between dynamo or electric motors and steering compass es.

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>

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 none ~~degrees on~~ course in the case of the standard compass and \_\_\_\_\_ ~~degrees on~~ course in the case of the steering compasses.

John Thomas & Co

Builder's Signature.

Date 11<sup>th</sup> Sept 1897

GENERAL REMARKS.

The fitting and workmanship are good and the installation when tried worked satisfactorily.

Wm. Austin

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

Committee's Minute

This installation appears to be fitted in accordance with the Rules

So only S.R.H

J.W. 22/11/97

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

