

## REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 21459

Port of Hull Date of First Survey June 30<sup>th</sup> Date of Last Survey July 7<sup>th</sup> No. of Visits 5  
 No. in Reg. Book 378 on the Iron or Steel Shawley ELITE Port belonging to Lochranes  
 Built at Leby By whom Lochranes When built 1909  
 Owners Bensaude & Co Owners' Address Lisbon  
 Yard No. 453 Electric Light Installation fitted by Messrs Black, Chapman & Co When fitted 1909

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One single cylinder open type double acting vertical engine, direct coupled to a continuous current compound wound dynamo.

Capacity of Dynamo 55 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed in Engine room Whether single or double wire system is used Double

Position of Main Switch Board near Dynamo having switches to groups A & B of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Each light & group of lights provided with switches as required.

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 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 slate & porcelain

Total number of lights provided for 48 = 61 @ 16cp arranged in the following groups:—

A 42 lights each of 16 candle power requiring a total current of 25.2 Amperes

B 19 lights each of 16 candle power requiring a total current of 11.4 Amperes

C — lights each of — candle power requiring a total current of — 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 1 lamps each of 32 candle power requiring a total current of 1.2 Amperes

2 Side light with 1 lamps each of 32 candle power requiring a total current of 1.2 Amperes

Three Cargo lights of four 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 55 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0600 square inches total sectional area

Branch cables carrying 25.2 Amperes, comprised of 7 wires, each 14 L.S.G. diameter, .03459 square inches total sectional area

Branch cables carrying 6.0 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .01246 square inches total sectional area

Leads to lamps carrying .6 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .00181 square inches total sectional area

Cargo light cables carrying 2.4 Amperes, comprised of 108 wires, each 38 L.S.G. diameter, .0032 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

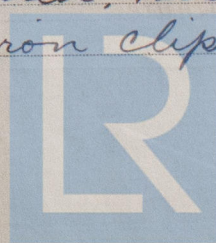
Vulcanized india rubber, taped & braided, lead covered overall & where exposed steel armoured over the lead covering.

Joints in cables, how made, insulated, and protected None except mechanical ones

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, no.

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 & armoured, securely clipped to underside of deck by galvanized iron clips.





DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible No

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Lead covered & steel armoured.

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

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

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

How are cables carried through beams in lead bushes through bulkheads, &c. in W. T. glands

How are cables carried through decks in galvanized iron deck 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 Lead covered & armoured

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 C. Iron fittings

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

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 to W. T. connection boxes.

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

How are the returns from the lamps connected to the hull \_\_\_\_\_

Are all the joints with the hull in accessible positions \_\_\_\_\_

The installation is now supplied with a voltmeter and \_\_\_\_\_ an amperemeter, fixed on 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.

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 Clarke, Chapman & Co. Ltd.

W. Walker

Chairman

Electrical Engineers

Date 14 July 1909

COMPASSES.

Distance between dynamo or electric motors and standard compass 50 feet

Distance between dynamo or electric motors and steering compass 42 feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>.6</u>	<u>12</u>	<u>6</u>	<u>6</u>
<u>.6</u>	<u>6</u>	<u>12</u>	<u>12</u>
<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>

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.

Bochmann & Sons

Builder's Signature.

Date 16<sup>th</sup> July 1909

GENERAL REMARKS.

This installation of electric light as far as can be seen is now in good working condition, the workmanship is good. tried under working condition & found satisfactory.

It is submitted that this vessel is eligible for the gradation "Electric Light"

John. W. Wynne

21.7.09

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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