

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 28877

Port of Hull Date of First Survey 4-9-15 Date of Last Survey 14-9-15 No. of Visits 7  
 No. in on the Iron or Steel screw steamer Magneta Port belonging to Hull  
 Reg. Book 28 Supl Built at Leby By whom Cochrane & Sons Ltd When built 1915-9  
 Owners F & J Ross Ltd Owners' Address West Dock Avenue Hull  
 Yard No. 643 Electric Light Installation fitted by Humber Electrical Co When fitted 1915-9

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

High pressure inverted Lison Engine closed type coupled direct to 4 Pole compound wound dynamo.

Capacity of Dynamo 50 Amperes at 65 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed in Engine room (left side) Whether single or double wire system is used double

Position of Main Switch Board near dynamo having switches to groups Three of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each one 3 way in Forecastle, one 3 way in Cabin entrance, one 3 way in engine room, one 12 way in wheelhouse

If fuses are fitted on main switch board to the cables of main circuit No 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits yes

Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 20% per cent over the normal current

Are all fuses 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 no

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 45 arranged in the following groups:-

|   |                      |                |               |  |   |                     |
|---|----------------------|----------------|---------------|--|---|---------------------|
| A | 8                    | lights each of | 16            | candle power requiring a total current of        | 7.5                                       | Amperes             |
| B | 20                   | lights each of | 16            | candle power requiring a total current of        | 12.9                                      | Amperes             |
| C | 7                    | lights each of | 16            | candle power requiring a total current of        | 6.9                                       | Amperes             |
| D | 10                   | lights each of | 16            | candle power requiring a total current of        | 9.4                                       | Amperes             |
| E |                      | lights each of |               | candle power requiring a total current of        |   | Amperes             |
| 3 | Mast head light with | 1              | lamps each of | 32   | candle power requiring a total current of | included in Amperes |
| 2 | Side light with      | 1              | lamps each of | 32   | candle power requiring a total current of | above Amperes       |
| 1 | Cargo lights of      | 5              | 16 cp         | candle power, whether incandescent or arc lights | incandescent                              |                     |

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

Where are the switches controlling the masthead and side lights placed Wheelhouse

## DESCRIPTION OF CABLES.

Main cable carrying 45 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area  
 Branch cables carrying 20 Amperes, comprised of 3 wires, each 18 S.W.G. diameter, .0053 square inches total sectional area  
 Branch cables carrying 10 Amperes, comprised of 3 wires, each 20 S.W.G. diameter, .0030 square inches total sectional area  
 Leads to lamps carrying 1.9 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area  
 Cargo light cables carrying 5 Amperes, comprised of 140 wires, each 38 S.W.G. diameter, .0027 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

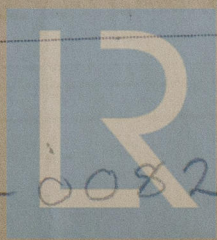
V. I. R cables taped, lead covered & armoured.

Joints in cables, how made, insulated, and protected none

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances ✓ 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 Through beams clipped to under side of deck with strong galvanized iron clips



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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 & armoured

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

What special protection has been provided for the cables near boiler casings Lead covered & armoured

What special protection has been provided for the cables in engine room Lead covered & armoured

How are cables carried through beams Lead bushes where not armoured through bulkheads, &c. Watertight glands

How are cables carried through decks Proper duct pipes made to fit decks

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 Fish room

If so, how are the lamp fittings and cable terminals specially protected Iron casings with heavy glass & brasses & (strong brass guards)

Where are the main switches and fuses for these lights fitted Wheel house

If in the spaces, how are they specially protected ✓

Are any switches or fuses 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 ✓

How are the returns from the lamps connected to the hull ✓

Are all the joints with the hull in accessible positions ✓

Is the installation supplied with a voltmeter yes, and with an amperemeter yes, fixed main switch board

VESSELS BUILT FOR CARRYING PETROLEUM.

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

Are any switches, fuses, 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 not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 500 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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.

THE HENDER ELECTRICAL ENGINEERING CO.

W. E. Studdorth

Electrical Engineers

Date 25/9/15

COMPASSES.

PROPRIETOR

Distance between dynamo or electric motors and standard compass

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying 15 Amperes lead to feet from standard compass feet from steering compass

A cable carrying 15 Amperes lead to feet from standard compass 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 nil degrees on all course in the case of the

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

FOR COCHRANE & SONS LTD.

J. M. Cochran

Builder's Signature.

Date 28/9/15

GENERAL REMARKS.

This vessel has been fitted with an electric light installation as above, the workmanship is good, on completion it was tested under working conditions & found satisfactory

It is submitted that

this vessel is eligible for

THE RECORD Elec light.

J. W. D. 18/10/15

Frank L. Stanger

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

Committee's Minute TUE. 19. OCT. 1915