

RETAIN

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REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 70543

Port of Manchester on Tyne Date of First Survey 29 Oct Date of Last Survey 12 Dec 17 No. of Visits 8
 No. in 43 on the Iron or Steel Cadillac Port belonging to British
 Reg. Book 43 Built at Hebburn By whom Palmer & Co When built 1917
 Owners Anglo American Oil Co. Owners' Address
 Yard No. 848 Electric Light Installation fitted by Palmer & Co When fitted 1917

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 in No Vertical enclosed engine for 220 lb steam pressure with governor 350 Revs
2 in No Holmes Dynamos compound wound self regulating 100V, 180 amp

Capacity of Dynamo 180 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 Engine Room having switches to groups 5 in No of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each none

If fuses 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 none 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 on cables of all circuits including lamp circuits yes

Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 50 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 yes

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

Total number of lights provided for 35 arranged in the following groups:—

A	Navigation lights each of <u>5-12</u>	candle power requiring a total current of <u>5.5</u>	Amperes
B	Masthead Accommodation lights each of <u>96</u>	candle power requiring a total current of <u>2.4</u>	Amperes
C	After lights each of <u>44</u>	candle power requiring a total current of <u>16</u>	Amperes
D	Forward lights each of <u>42</u>	candle power requiring a total current of <u>10.5</u>	Amperes
E	Eng. & Blk. Room lights each of <u>8-25</u>	candle power requiring a total current of <u>17.4</u>	Amperes
1	Mast head light with 1 lamps each of <u>32</u>	candle power requiring a total current of <u>1.2</u>	Amperes
2	Side light with 1 lamps each of <u>32</u>	candle power requiring a total current of <u>2.4</u>	Amperes
5	Cargo lights of <u>12-40</u>	candle power, whether incandescent or arc lights <u>incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. none

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

DESCRIPTION OF CABLES.

Main cable carrying <u>77</u> Amperes, comprised of <u>37</u> wires, each <u>.082</u> S.W.G. diameter, <u>.2</u> square inches total sectional area
Branch cables carrying <u>24</u> Amperes, comprised of <u>37</u> wires, each <u>.072</u> S.W.G. diameter, <u>.15</u> square inches total sectional area
Branch cables carrying <u>16</u> Amperes, comprised of <u>19</u> wires, each <u>.14</u> S.W.G. diameter, <u>.094</u> square inches total sectional area
Leads to lamps carrying <u>1</u> Amperes, comprised of <u>1</u> wires, each <u>.17</u> S.W.G. diameter, <u>.0024</u> square inches total sectional area
Cargo light cables carrying <u>1.2</u> Amperes, comprised of <u>108</u> wires, each <u>.36</u> S.W.G. diameter, <u>.005</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Lead covered cables in cabins etc.
Lead covered & painted in engine rooms & bunkers & engine rooms

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 no joint 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 none

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 clipped up through tween deck (lead covered & painted)



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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 Lead covered & Armoured

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat none except lead covering

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

How are cables carried through beams holes lashed with lead through bulkheads, &c. oil proof patten glands

How are cables carried through decks galvanized iron deck 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 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 Special W.T. Glandless fittings with iron covers

Where are the main switches and fuses for these lights fitted Engineers lobby

If in the spaces, how are they specially protected ✓

Are any switches or fuses fitted in bunkers none

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 on Switchboard

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 yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion none

How are the lamps specially protected in places liable to the accumulation of vapour or gas W.T. Glandless fittings

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 2500 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.

Albert P. Pyne

Chief Electrical Engineer Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass about 300 ft

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

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>25</u>	<u>on</u>	<u>4</u>	<u>on</u>
<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</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 ?

The maximum deviation due to electric currents, etc., was found to be degrees on course in the case of the standard compass and degrees on course in the case of the steering compass.

Geo. H. Hutchison

Builder's Signature.

Date

20th Dec 1917

GENERAL REMARKS.

The electric lighting installation of this vessel has been fitted in accordance with the rules and satisfactorily tested with all lights on.

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

George Murdoch

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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