

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 10410

Port of MIDDLESBRO Date of First Survey While Date of Last Survey Building No. of Visits ✓  
 No. in Reg. Book on the ~~Lower~~ Steel S.S. Taikoo Wau Yi Port belonging to \_\_\_\_\_  
 Built at Middlesbrough By whom Messrs Sir Railton Dixon & Co When built 1919.  
 Owners \_\_\_\_\_ Owners' Address \_\_\_\_\_  
 Yard No. 617 Electric Light Installation fitted by Messrs J. H. Holmes & Co When fitted 1919.

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

1-6 1/2 x 6 Open Vertical Single Cylinder Clark Chapman Engine Direct Coupled to 1-1/2 x 3/4 W. Open Dynamo by J. Holmes & Co  
 Capacity of Dynamo 100 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 C D E of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each 1-6 way 5 amp at Junction near main Box 2-3 way 15 amp at Junction fixed in steering gear 1-5 way fuse box fixed in passages off 1-6 way 4-5 way box fixed in Party Passage 1-6 way 2-4 way box fixed in Wheelhouse  
 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 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 100 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 121 arranged in the following groups:—

Group	Description	Number of Lights	Candle Power	Current (Amperes)
A	lights each of	32	32	Approx 10 Amps
B	lights each of	16	32	18
C	lights each of	16	16	Approx 14.56
D	lights each of	16	16	16.8
E	Spare Circuit lights each of			
2	Mast head light with 1 lamps each of	32	32	2.24
2	Side light with 1 lamps each of	32	32	2.24
5	Cargo lights of	6 x 16		Incandescent

If are lights, what protection is provided against fire, sparks, &c. \_\_\_\_\_  
 Where are the switches controlling the masthead and side lights placed Wheelhouse

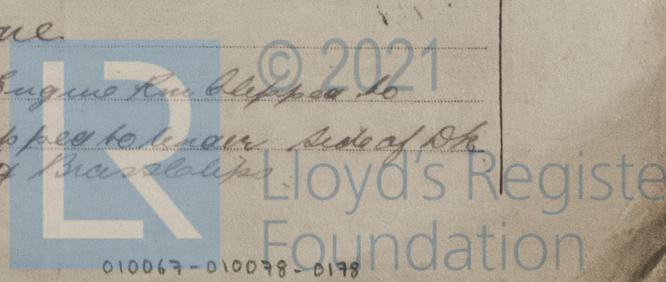
### DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area  
 Branch cables carrying 18.1 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area  
 Branch cables carrying 16.8 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .012 square inches total sectional area  
 Leads to lamps carrying 26 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area  
 Cargo light cables carrying 3.36 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, .003 square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

All connections are formed of G. C. paper Linen Insulated with pure Para Rubber & Vulcanised India Rubber Paper & Braided over and protected from moisture heat etc by 4 wires on a lead covering  
 Joints in cables, how made, insulated, and protected here looping in system covered on

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances None. 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 None  
 How are the cables led through the ship, and how protected Armoured & Braided in Engine Room clipped to bulkheads & in Cargo Spaces Armoured & Braided clipped to main side of Deck In Accommodation Lead covered clipped by brass clips



**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 Armoured & Braided

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

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 Bushed with fibre through bulkheads, &c. In Sheeting Heads

How are cables carried through decks In Lead & Iron & Lubes Flanges & made watertight

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 Armoured & Braided

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage No

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

Where are the main switches and fuses for these lights fitted " " "

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 W/ Plug socket connected

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 Main 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 600 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.

*[Signature]* Stoddard & Co Electrical Engineers Date " " "

**COMPASSES.**

Distance between dynamo or electric motors and standard compass Approx 96 ft.

Distance between dynamo or electric motors and steering compass " 90 "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>56</u>	Amperes	<u>inside</u>	feet from standard compass	<u>inside</u>	feet from steering compass
A cable carrying	<u>10</u>	Amperes	<u>10</u>	feet from standard compass	<u>7</u>	feet from steering compass
A cable carrying	<u>approx 10</u>	Amperes	<u>20</u>	feet from standard compass	<u>16</u>	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 NONE degrees on " " " course in the case of the standard compass and NONE degrees on " " " course in the case of the steering compass.

FOR SIR RAYLTON DIXON & COMPANY, LIMITED. J.M. Harroway Director. Builder's Signature. Date 17 JUN 1919

**GENERAL REMARKS.**

This installation has been fitted in accordance with the Rules is of good materials and workmanship and on completion was examined under full working conditions and found satisfactory

It is submitted that this vessel is eligible for THE RECORD ELEC. LIGHT. J.W.D. Wm Harrison Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute TUE JUL 1-1919

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

Im. 9. 12. — Transfer.

