

# REPORT ON ELECTRIC LIGHTING INSTALLATION.

MARCH 12 1899

Port of MIDDLESBROUGH-ON-TEES. Received at London Office \_\_\_\_\_

No. 390 \*  
 No. in \_\_\_\_\_ Name of Ship "Oil Rivers" Built at Middlesboro When built Jan 7th 1899  
 Reg. Book. \_\_\_\_\_  
 Electric Light Installation fitted by J. A. Holmes & Co. when fitted \_\_\_\_\_ when built \_\_\_\_\_

DESCRIPTION OF DYNAMO AND ENGINE.—  
7" 1/2" Cylinder by 6" Stroke - vertical - automatic expansion governor -  
to regulate within 5% of speed with full or no load - 240 Revolution  
 Capacity of Dynamo 150 Amperes at 60 Volts, ~~continuous~~ continuous ~~or~~ or ~~intermittent~~ intermittent current  
 Where is Dynamo fixed Recess on Starboard Side Plating platform in Engine room - Protective

LAMPS.—  
 Is vessel wired on single or double wire system Single Total number of lights 130 arranged in the following groups:—  
 A Forward Circuit 22 lights each of 16 candle power requiring a total current of 22 Amperes  
 B Saloon 42 lights each of 16 candle power requiring a total current of 42 Amperes  
 C Engine Room 51 lights each of 16 candle power requiring a total current of 51 Amperes  
 D Aft Circuit 15 lights each of 16 candle power requiring a total current of 15 Amperes  
 E \_\_\_\_\_ lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes  
1 Mast head light with 2 lamps each of 16 candle power requiring a total current of 2 Amperes  
2 Side light with 2 lamps each of 16 each - candle power requiring a total current of 4 Amperes  
4 Cargo lights of 8 lamps each of 16 candle power, ~~whether~~ whether ~~incandescent~~ incandescent ~~or~~ or ~~other~~ other lights  
 If are lights, what protection is provided against fire, sparks, &c. \_\_\_\_\_

SWITCHES AND CUT-OUTS—  
 Position of Main Switch Board Near dynamo having switches to groups A B C D of lights as above  
 Positions of other switch boards and numbers of switches on each — Separate porcelain switches back light on Saloon circuit other switches attached to the fittings  
 If cut outs are fitted to main circuit — No main circuit used and to each auxiliary circuit Yes  
 and at each position where cable is branched or reduced in size Yes  
 If vessel is wired on the double wire system are cut outs fitted on each wire \_\_\_\_\_  
 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  
 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 \_\_\_\_\_  
 How are the lamps specially protected in places liable to the accumulation of vapour or gas \_\_\_\_\_  
 Are all switches and cut-outs constructed of unflammable materials and fitted on unflammable bases \_\_\_\_\_

DESCRIPTION OF CABLES.—  
 Main cable carrying \_\_\_\_\_ Amperes, comprised of \_\_\_\_\_ wires, each \_\_\_\_\_ legal standard wire gauge diameter  
 Branch cables carrying Run at 1000 amperes for \_\_\_\_\_ wires, each \_\_\_\_\_ legal standard wire gauge diameter  
 Branch cables carrying \_\_\_\_\_ Amperes, comprised of \_\_\_\_\_ wires, each \_\_\_\_\_ legal standard wire gauge diameter  
 Leads to lamps \_\_\_\_\_ Amperes, comprised of \_\_\_\_\_ wires, each \_\_\_\_\_ legal standard wire gauge diameter  
 Cargo light cables carrying \_\_\_\_\_ Amperes, comprised of \_\_\_\_\_ wires, each \_\_\_\_\_ legal standard wire gauge diameter  
 The copper used has a conductivity of \_\_\_\_\_ per cent. that of pure copper.  
 Insulation of cables is guaranteed to have a resistance of not less than \_\_\_\_\_ megohms per statute mile after 24 hours' immersion in sea \_\_\_\_\_

300 T. & S. 12. 01

DESCRIPTION OF INSULATION, PROTECTION, &c.—

*As usual - (See our previous forms)*

Joints in cables, how made, insulated, and protected

*do.*

Are all the joints of cables thoroughly soldered, resin only having been used as a flux

*do.*

How are cables led throughout the ship

What special protection has been provided for the cables in open alleyways

*do.*

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

*do.*

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

How are cables carried through decks

*do.* and through bulkheads

Are any cables run through coal bunkers

or cargo spaces

If so, how are they protected

*do.*

Are any lamps fitted in coal bunkers or spaces which may be used for cargo

If so, how are they specially protected

*In an efficient manner*

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

*By brass screw washers. Screwed into beams.*

Are all the joints with the hull in accessible positions

*Yes.*

TESTING, &c.—

Has the installation been thoroughly tested to its full capacity during a trial of

*Five*

hours' duration

*Yes.*

The insulation resistance of the whole installation was

*50,000*

ohms

The installation is

supplied with a voltmeter and

*not*

an amperemeter, fixed

*on Switchboard*

General Remarks.—

*Insulation Resistance measured on Feb 2. 1891*

<i>Engine Room Circuit</i>	<i>120,000 ohms.</i>
<i>Aft Saloon Forward</i>	<i>100,000 "</i>
	<i>475,000 "</i>
	<i>1,100,000 "</i>

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.

*J. W. Holmes & Co.*

Electrical Engineers

Date *Mar 3<sup>rd</sup> 91*

COMPASSES.—

Distance between dynamo and standard compass

Distance between dynamo and steering compass

*Sir. W. Thompson's compass on Bridge about 70 ft from dynamo*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>4</i>	Amperes	<i>about 7</i>	feet from standard compass	<input checked="" type="checkbox"/>	feet from steering compass
A cable carrying		Amperes		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

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.

*SIR RAYLTON DIXON & Co*

Builder's Signature

Date *March 11<sup>th</sup> 1891.*

*H. M. Williams*

Surveyor's Signature

Date *March 8<sup>th</sup> 1891.*

MDS 741/115