

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. *1212*

Port of *Liverpool* Date of First Survey *Mar 13* Date of Last Survey *Sept 3* No. of Visits *15*
 No. in Reg. Book *25734* on the *Iron or Steel* s/s *Tolsella* in *Veraston* Port belonging to *London*
 Built at *West Hartlepool* By whom *H. Gray & Co. Ltd.* When built *1906/10*
 Owners *Anglo-Saxon Petroleum Co. Ltd.* Owners' Address _____
 Yard No. _____ Electric Light Installation fitted by *J. W. Jefferson, Ltd.* When fitted *1920*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Single reciprocating steam engine direct coupled to compound wound D.C. Dynamo.
 Capacity of Dynamo *50* Amperes at *100* Volts, whether continuous or alternating current *Continuous*
 Where is Dynamo fixed *Starb side Engine room* Whether single or double wire system is used *double*
 Position of Main Switch Board *Starb side Engine room* Having switches to groups *Four D.P.* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *(1) Mounted in Wheelhouse for navigation control 5 switches*

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 cessel 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 *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 *123* arranged in the following groups:—

A	<i>20</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>10</i>	Amperes
B	<i>12</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>6</i>	Amperes
C	<i>17</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>8.5</i>	Amperes
D	<i>30</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>15</i>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
	<i>2</i>	Mast head light with <i>2</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>2</i>	Amperes
	<i>2</i>	Side light with <i>2</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>2</i>	Amperes
	<i>40</i>	Cargo lights of	<i>16</i>	candle power, whether incandescent or arc lights	<i>Incandescent</i>	

If arc lights, what protection is provided against fire, sparks, &c. *No arc lights*

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

DESCRIPTION OF CABLES.

Main cable carrying	<i>60</i>	Amperes, comprised of	<i>19</i>	wires, each	<i>16</i>	S.W.G. diameter,	<i>.06</i>	square inches total sectional area
Branch cables carrying	<i>22.5</i>	Amperes, comprised of	<i>7</i>	wires, each	<i>16</i>	S.W.G. diameter,	<i>.0225</i>	square inches total sectional area
Branch cables carrying	<i>7</i>	Amperes, comprised of	<i>7</i>	wires, each	<i>20</i>	S.W.G. diameter,	<i>.007</i>	square inches total sectional area
Leads to lamps carrying	<i>2</i>	Amperes, comprised of	<i>3</i>	wires, each	<i>22</i>	S.W.G. diameter,	<i>.002</i>	square inches total sectional area
Cargo light cables carrying	<i>4</i>	Amperes, comprised of	<i>110</i>	wires, each	<i>38</i>	S.W.G. diameter,	<i>.006</i>	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanised india rubber taped & braided lead covered braided & armour braided

Joints in cables, how made, insulated, and protected *No joints (all looped in)*

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 *In galvanised steel tube & lead armour braided cable*



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 Galvanised tubing

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

What special protection has been provided for the cables near boiler casings There are none

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

How are cables carried through beams Through lead bushed holes through bulkheads, &c. watertight glands

How are cables carried through decks Deck pipes of galvanised steel tube

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 Galvanised steel tube

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 _____

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 scuttleboard

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 no

How are the lamps specially protected in places liable to the accumulation of vapour or gas There are none

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.

FOR AND ON BEHALF OF **T.W. JEFFERSON LIMITED.**

Electrical Engineers Date _____

COMPASSES. T.W. Jefferson MANAGING DIRECTOR

Distance between dynamo or electric motors and standard compass 150 feet

Distance between dynamo or electric motors and steering compass 150 feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>2</u>	<u>10</u>	<u>8</u>	
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.

Builder's Signature. Date _____

GENERAL REMARKS.

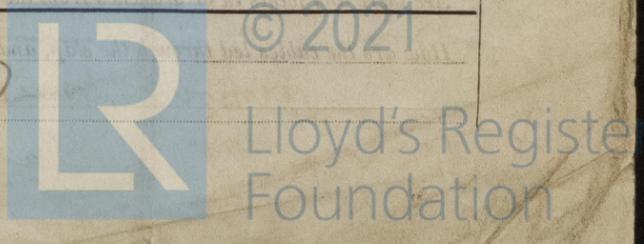
The electric lighting installation of this vessel has been fitted under survey and in accordance with the Rules. It has been tried under full working conditions and found satisfactory. It is eligible for record in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. Elec Light. Hell 14/1/20

H. G. Oxford.
Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL
Electric Light

SEP 1920



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

Im 7, 10—Transfer.