

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 62532

Port of Newcastle Date of First Survey 28<sup>th</sup> May Date of Last Survey 21<sup>st</sup> June 1912 No. of Visits 6  
 No. in on the Iron or Steel SS Comanche Port belonging to  
 Reg. Book Built at Low-Walther By whom Armstrong Whitworth When built 1912  
 Owners Anglo-American Oil Corp. Owners' Address London  
 Yard No. 842 Electric Light Installation fitted by Clarke Chapman & Co LTD When fitted 1912

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One single cylinder double acting open type vertical engine direct coupled to a continuous current compound wound dynamo.

Capacity of Dynamo 80 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 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Each light & group of lights provided with switches as required

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits Yes

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 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 cut-outs constructed of incombustible materials and fitted on incombustible bases Yes slate & porcelain

Total number of lights provided for 87 arranged in the following groups:—

A	<u>41</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>23.7</u>	Amperes
B	<u>37</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>21.4</u>	Amperes
C	<u>9</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>5.2</u>	Amperes
D	<u>Whichever</u>	lights each of	<u>—</u>	candle power requiring a total current of	<u>25</u>	Amperes
E	<u>—</u>	lights each of	<u>—</u>	candle power requiring a total current of	<u>—</u>	Amperes
<u>2</u>	Mast head light with	<u>1</u>	lamps each of	<u>32</u>	candle power requiring a total current of	<u>1.2</u>
<u>2</u>	Side light with	<u>1</u>	lamps each of	<u>32</u>	candle power requiring a total current of	<u>1.2</u>
<u>1</u>	Cargo lights of	<u>6-16</u>			candle power, whether incandescent or arc lights	<u>incandescent</u>

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

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

## DESCRIPTION OF CABLES.

Main cable carrying 80 Amperes, comprised of 19 wires, each 14 L.S.G. diameter, .09372 square inches total sectional area

Branch cables carrying 22 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .02214 square inches total sectional area

Branch cables carrying 7 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .00705 square inches total sectional area

Leads to lamps carrying .6 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .00181 square inches total sectional area

Cargo light cables carrying 3.6 Amperes, comprised of 168 wires, each 38 L.S.G. diameter, .00502 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized india rubber taped & braided & lead covered overall where exposed steel armoured over the lead covering

Joints in cables, how made, insulated, and protected no joints except mechanical ones

Are all the joints of cables thoroughly soldered, resin only having been used as a flux Yes 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 Yes, no.

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 Lead covered cables run in galvanized iron pipes clipped to underside of floor & after gangway with strong WI 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 *Lead covered & steel armored & lead covered run in galvanized iron pipes*

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

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 *in lead bushes* through bulkheads, &c. *in glands*

How are cables carried through decks *in galvanized iron deck tubes*

Are any cables run through coal bunkers *no* or cargo spaces *no* or spaces which may be used for carrying cargo, stores, or baggage *no*

If so, how are they protected *—*

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 cut outs for these lights fitted *—*

If in the spaces, how are they specially protected *—*

Are any switches or cut outs fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *to WTCI Connection Boxes*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *Double wire system*

How are the returns from the lamps connected to the hull *—*

Are all the joints with the hull in accessible positions *—*

The installation is *now* supplied with a voltmeter and *also* an amperemeter, fixed *in Switchboard*

VESSELS BUILT FOR CARRYING PETROLEUM.

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 *Yes*

Are any switches, cut outs, 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 *Strong guarded gas-tight fittings*

The copper used is guaranteed to have a conductivity of *100* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *2000* megohms per statute mile after 24 hours' immersion in seawater.

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 Clarke, Chapman & Co., Ltd.

*W. A. W. W. W.* Director.

Electrical Engineers

Date *July 4<sup>th</sup> 1912*

COMPASSES.

Distance between dynamo or electric motors and standard compass *212 ft*

Distance between dynamo or electric motors and steering compass *206 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>.6</i>	<i>12</i>	<i>6</i>	<i>6</i>
<i>.6</i>	<i>6</i>	<i>12</i>	<i>12</i>
<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>

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.

*BIRW. G. ARMSTRONG & CO. LTD.*

Builder's Signature.

Date *5<sup>th</sup> July 1912*

GENERAL REMARKS.

*This installation has been fitted in accordance with the Rules, and has been seen running under full power; in my opinion the vessel is eligible for record of Elec. Light.*

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

*Charles Cooper*

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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