

THU 17 MAR 1921

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 11205

Port of *Newcastle on Tyne* Date of First Survey *16/2/21* Date of Last Survey *9/3/21* No. of Visits *5*  
 No. in *on the Iron or Steel* *"Howland Fish"* Port belonging to *Glasgow*  
 Reg. Book *80208 Supp* Built at *South Shields* By whom *Hepple & Co* When built *1920*  
 Owners *Borden Shipping Co Ltd.* Owners' Address \_\_\_\_\_ When fitted *1921*  
 Yard No. *58* Electric Light Installation fitted by *Campbell & Sherwood & Co*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine *Robey single cylinder steam engine open type coupled direct to a four pole compound dynamo.*

Capacity of Dynamo *30* Amperes at *100* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *engine room starboard side* Whether single or double wire system is used *double.*

Position of Main Switch Board *engine room, on stove bulkhead* having switches to groups *2* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *8-way distribution box in Chathouse, 1-3 way distribution box in engine room, 3 way dis box in crew's quarters forward.*

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 *33* arranged in the following groups:—

A *Engine room 13.* lights each of *30 watt* candle power requiring a total current of *3.9* Amperes

B *Saloon & lavation 20* lights each of *1-80P, 4-32P, 1-160P* candle power requiring a total current of *12.57* Amperes

C lights each of *2-200P H.W. 12-30 watt.* candle power requiring a total current of \_\_\_\_\_ Amperes

D lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes

E lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes

1 *Mast head light with 1* lamps each of *32* candle power requiring a total current of *1.12* Amperes

2 *Side light with 1* lamps each of *32* candle power requiring a total current of *2.24* Amperes

2 *Cargo lights of 200 C.P. 12/100 watt lamp.* candle power, whether incandescent or are lights *incandescent*

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

Where are the switches controlling the masthead and side lights placed *in chathouse.*

## DESCRIPTION OF CABLES.

Main cable carrying *30* Amperes, comprised of *7* wires, each *.052* S.W.G. diameter, *.0145* square inches total sectional area

Branch cables carrying *3.9* Amperes, comprised of *7* wires, each *.036* S.W.G. diameter, *.007* square inches total sectional area

Branch cables carrying *12.57* Amperes, comprised of *7* wires, each *.036* S.W.G. diameter, *.007* square inches total sectional area

Leads to lamps carrying *.56* Amperes, comprised of *13* wires, each *.029* S.W.G. diameter, *.002* square inches total sectional area

Cargo light cables carrying *1* Amperes, comprised of *40* wires, each *.0076* S.W.G. diameter, *.0012* square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Main cables are *V.I.R* cables run in conduit in engine room stakehold & galley. Lead covered cable in crew's quarters, officers & engineers quarters.

Joints in cables, how made, insulated, and protected *none made*

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 *V.I.R cable run in conduit clipped to beams & girders.*



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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 *V.I.R. cable in conduit*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *V.I.R. cable in conduit*

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 *do*

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

How are cables carried through decks *iron deck pipes*

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

If so, how are they protected *V.I.R. cable in conduit*

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 *not fitted in, most lamps*

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

Cargo light cables, whether portable or permanently fixed *flexible from watertight socket* How fixed *clipped to bulkhead*

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

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.

CAMPBELL & ISHERWOOD LTD.

Electrical Engineers

Date *11th March 1921*

**COMPASSES.**

PER

*Thos Meade*

Distance between dynamo or electric motors and standard compass

*43 feet*

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
<i>7.42</i>	<i>5.6</i>		
<i>.28</i>	<i>on the</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.

For HEPPLES (1919) LIMITED,

*W. J. G. Apple*

Builder's Signature.

Date *15th March 1921*

**GENERAL REMARKS.**

*The above installation is in accordance with the Society's Rules. The vessel is eligible in my opinion for notation. Electric light fitted*

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

*Roll 18/3/21*

*W. T. Badger*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

2m.11.10—Transfer.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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