

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 13216.

Port of *Aberdeen*. Date of First Survey *19.10.22* Date of Last Survey *24.11.22* No. of Visits *10*.  
 No. in Reg. Book *83433* on the Iron or Steel *SS "JAMES FITCHERS"* Port belonging to *N. Shields*.  
 Built at *Aberdeen*. By whom *W. & A. Russell & Co. Ltd.* When built *1911.12.*  
 Owners *J. & A. Johnson*. Owners' Address *Near Black Tower Docks, Cape Town*.  
 Yard No. *Electric Light Installation fitted by Clyne Mitchell & Co. Ltd.* When fitted *1922.*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*Multipolar, compound wound Dynanico, direct coupled to a single cylinder, double acting, vertical, open type engine, with governor on crankshaft.*  
 Capacity of Dynamo *10.* Amperes at *100.* Volts, whether continuous or alternating current *Continuous.*  
 Where is Dynamo fixed *Starboard side in engine room.* Whether single or double wire system is used *double.*  
 Position of Main Switch Board *engine room bulkhead near dynamo* having *fuses* to groups *A, B, C & D.* of lights, &c., as below  
 Positions of auxiliary *fuse* boards and numbers of *fuses* on each *In Wheelhouse, 8 - In Engine room, 3.*

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  
 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 *35.* arranged in the following groups:—  
 A *6 Accommodation* lights each of *16* candle power requiring a total current of *1.2* Amperes  
 B *5 (Machinery space)* lights each of *16* candle power requiring a total current of *1.0* Amperes  
 C *9 (Fishroom + Forecastle)* lights each of *16* candle power requiring a total current of *1.8* Amperes  
 D *8 (Store room + Casings)* lights each of *16* candle power requiring a total current of *1.6* Amperes  
 E *1 Pilot light* lights each of *16* candle power requiring a total current of *.2* Amperes  
 1 Mast head light with 1 lamps each of *32* candle power requiring a total current of *.4* Amperes  
 2 Trawl lights with 1 - - - - - *16* - - - - - *.4* Amperes  
 2 Side lights with 1 lamps each of *32* candle power requiring a total current of *.8* Amperes  
*one.* Cargo lights of *4 lamp cluster* *64* candle power, whether incandescent or arc 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 wheelhouse.*

## DESCRIPTION OF CABLES.

Main cable carrying *10.* Amperes, comprised of *4* wires, each *18* S.W.G. diameter, *.0125* square inches total sectional area  
 Branch cables carrying *6.* Amperes, comprised of *4* wires, each *22* S.W.G. diameter, *.0042* square inches total sectional area  
 Branch cables carrying *1.2* Amperes, comprised of *3* wires, each *22* S.W.G. diameter, *.0018* square inches total sectional area  
 Leads to lamps carrying *1.2* Amperes, comprised of *3* wires, each *22* S.W.G. diameter, *.0018* square inches total sectional area  
 Cargo light cables carrying *.8* Amperes, comprised of *3* wires, each *22* S.W.G. diameter, *.0018* square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

*Insulated with pure vulcanized india rubber, taped, lead covered & armoured, with galvanized steel wire in Storehold, Bunker, Fishhold, & up mast. In engine room with pure & vulcanized rubber & protected in galvanized iron tubes. In cabins lead covered only.*

Joints in cables, how made, insulated, and protected *Connections made in joint boxes. no joints in cables.*

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 *yes.*

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 *Armoured, & clipped to wood battens bolted to bunker Casings Bulkheads, & to outer lining of insulation in fishroom. Carried in galvanized iron tubes in engine room.*



**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 + armoured.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *lead covered + armoured.*

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

What special protection has been provided for the cables in engine room *run in galvanized iron tubes*

How are cables carried through beams *galvanized fibre ferrules* through bulkheads, &c. *W.T. packing glands*

How are cables carried through decks *In deck tubes filled in with pitch.*

Are any cables run through coal bunkers *yes* or cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage *yes.*

If so, how are they protected *lead covered + armoured.*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *yes in fishhold.*

If so, how are the lamp fittings and cable terminals specially protected *Watertight oyster fittings + terminal boxes*

Where are the main switches and fuses for these lights fitted *In wheelhouse.*

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 switchboard *yes.*

**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.

**CLYNE MITCHELL & CO. Ltd.**

*W. Macleod* Manager

Electrical Engineers

Date *7th December 1922.*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass } *about 40 feet.*

Distance between dynamo or electric motors and steering compass }

The nearest cables to the compasses are as follows:—

|                  |            |         |       |                            |              |                            |
|------------------|------------|---------|-------|----------------------------|--------------|----------------------------|
| A cable carrying | <i>. 8</i> | Amperes | _____ | feet from standard compass | <i>1 1/2</i> | feet from steering compass |
| A cable carrying | <i>. 4</i> | Amperes | _____ | feet from standard compass | <i>1 1/2</i> | feet from steering compass |
| A cable carrying | <i>. 4</i> | Amperes | _____ | feet from standard compass | <i>1 1/2</i> | 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 *nil.* degrees on \_\_\_\_\_ course in the case of the standard compass and *nil* degrees on \_\_\_\_\_ course in the case of the steering compass.

*Stevenson & Harris*

*Compass Adjusters*  
Builder's Signature.

Date *Dec 8th 1922*

**GENERAL REMARKS.**

The various parts of the Installation were examined during the fitting on board; the materials and workmanship are good, and on completion the light was tried under full power and found satisfactory.

**It is submitted that this vessel is eligible for**

**THE RECORD.**

*Elec. Light A.P.B.*

*Ridley Yowell*

Surveyor to Lloyd's Register of Shipping.

2m. 1110—Transfer.

*Lee:*  
*\$5 paid*  
*7.12.22*  
*Committee's Minute*



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.