

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 29190

Port of Hull Date of First Survey 17.1/16 Date of Last Survey 10/3/16 No. of Visits 4  
 No. in Belgaum on the Iron or Steel Belgaum Port belonging to Belgaum  
 Reg. Book 45 Built at Zelby By whom Cochrane & Sons Ltd When built 1916-3  
 Owners J. Olginston Owners' Address Belgaum  
 Yard No. 649 Electric Light Installation fitted by Northern Electrical Co. When fitted 1916-3

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Enclosed Engine direct-coupled to two pole  
Dynamo  
 Capacity of Dynamo 44 Amperes at 65 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Starboard side of Engine Whether single or double wire system is used Double  
 Position of Main Switch Board Near Dynamo having switches to groups of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Distribution board in  
Wheel House with 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 — 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-oxidisable 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  
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 44 arranged in the following groups:—

A	16	lights each of	16	candle power requiring a total current of	16	Amperes
B	5	lights each of	32	candle power requiring a total current of	23	Amperes
C	23	lights each of	16	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
3	Mast head light with	1	lamps each of	32	candle power requiring a total current of	Included in above
2	Side light with	1	lamps each of	32	candle power requiring a total current of	—
4	Cargo lights of		16	candle power, whether incandescent or arc lights		

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 39 Amperes, comprised of 19 wires, each 16 S.W.G. diameter, .06 square inches total sectional area  
 Branch cables carrying 23 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area  
 Branch cables carrying 3 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area  
 Leads to lamps carrying — Amperes, comprised of — wires, each — S.W.G. diameter, — square inches total sectional area  
 Cargo light cables carrying 4 Amperes, comprised of 110 wires, each 38 S.W.G. diameter, .0032 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

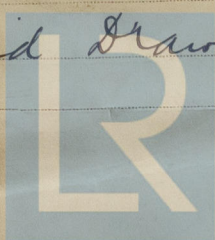
Vulcanized I Rubber Taped & Braided Run in Galvanized  
Steel tubing Cabin & Chart Room same in wood casing

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 —

How are the cables led through the ship, and how protected Galvanized Solid Drawn Steel  
Tubing slipped to underside of deck & bulkheads



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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

Galv'd Steel Pipes

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

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

lead bushes on steel pipes

through bulkheads, &c.

water tight joints

How are cables carried through decks

framed tubes

Are any cables run through coal bunkers

Yes

or cargo spaces

or spaces which may be used for carrying cargo, stores, or baggage

If so, how are they protected

Steel tubes

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

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 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.

THE NORTHERN ELECTRICAL CO.

Electrical Engineers

Date

**COMPASSES.**

Distance between dynamo or electric motors and standard compass

About 40 ft.

Distance between dynamo or electric motors and steering compass

35

The nearest cables to the compasses are as follows:—

A cable carrying

1

Amperes

5

feet from standard compass

0

feet from steering compass

A cable carrying

23

Amperes

6

feet from standard compass

6

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

Yes

The maximum deviation due to electric currents, etc., was found to be

nil

degrees on

any

course in the case of the

standard compass and

nil

degrees on

any

course in the case of the steering compass.

FOR COCHRANE & SONS LTD.

J. M. Cochrane

Builder's Signature.

Date

30/3/1916

**GENERAL REMARKS.**

DIRECTOR

This vessel has been fitted with an electric light installation as above & the workmanship is good on completion it was tested under full working conditions & found satisfactory.

It is submitted that this vessel is eligible for THE RECORD.

Elec. light.

JWD

6/4/16

Frank A. Sturgeon

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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