

Rpt. 13.

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 3446

Port of SAN FRANCISCO Date of First Survey Mar 17 Date of Last Survey Jan 20 No. of Visits 11  
 No. in on the Iron-on-Steel S.S. "YORBA LINDA" Port belonging to San Francisco  
 Reg. Book Built at Alameda, California By whom Bethlehem S.B. Corp. When built 1921  
 Owners General Petroleum Company Owners' Address Electric Light Installation fitted by Bethlehem S. B. Corp. When fitted 1921  
 Yard No. 5307

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 G. E. Generators direct connected to Reciprocating engines.

each 130 Amperes at 110 Volts, whether continuous or alternating current Continuous  
 Capacity of Dynamo 130 Whether single or double wire system is used double  
 Where is Dynamo fixed Engine Room having switches to groups 12 of lights, &c., as below  
 Position of Main Switch Board near dynamo  
 Positions of auxiliary switch boards and numbers of switches on each A Engine Room 10 switches. B Aft Quarters 12 switches. C Midship 14 switches. D Forecastle 8 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 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 10 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 29.5 arranged in the following groups:—

A	85	lights each of	40	candle power requiring a total current of	35	Amperes
B	104	lights each of	25	candle power requiring a total current of	26	Amperes
C	85	lights each of	25	candle power requiring a total current of	21	Amperes
D	21	lights each of	25	candle power requiring a total current of	5	Amperes
E		lights each of		candle power requiring a total current of		Amperes
1	Mast head light with	2	lamps each of	60	candle power requiring a total current of	2
2	Side light with	2	lamps each of	60	candle power requiring a total current of	2
3	Cargo lights of			200	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 Pilot House

## DESCRIPTION OF CABLES.

Main cable carrying	182	Amperes, comprised of	37	wires, each	13	S.W.G. diameter, .250	square inches total sectional area
Branch cables carrying	40	Amperes, comprised of	19	wires, each	16	S.W.G. diameter, .068	square inches total sectional area
Branch cables carrying	21	Amperes, comprised of	7	wires, each	17	S.W.G. diameter, .017	square inches total sectional area
Leads to lamps carrying	1	Amperes, comprised of	1	wires, each	14	S.W.G. diameter, .0050	square inches total sectional area
Cargo light cables carrying	3	Amperes, comprised of	28	wires, each	18	S.W.G. diameter, .504	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

All wiring rubber wired double braid.

Joints in cables, how made, insulated, and protected Soldered - rubber and friction tape

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 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 Conduit

Shipping.



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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 **Conduit**

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

What special protection has been provided for the cables near boiler casings **Conduit**

What special protection has been provided for the cables in engine room **Conduit**

How are cables carried through beams **Conduit** through bulkheads, &c. **Conduit**

How are cables carried through decks **Conduit**

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

If so, how are they protected **Conduit**

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

If so, how are the lamp fittings and cable terminals specially protected **Cast iron junction boxes - wire guards**

Where are the main switches and fuses for these lights fitted **Forecastle**

If in the spaces, how are they specially protected **No**

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 **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 **No**

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 **Vapour proof globes**

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.

**BETHLEHEM SHIPBUILDING CORP.**  
**UNION PLANT**

**Electrical Engineers** Date **Jan 28-1921**

**COMPASSES.** **Asst. General Manager.**

Distance between dynamo or electric motors and standard compass **25 ft.**

Distance between dynamo or electric motors and steering compass **25 ft.**

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<b>1/4</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>35</b>	<b>6</b>	<b>6</b>	<b>6</b>

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 **each** course in the case of the standard compass and **Nil** degrees on **each** course in the case of the steering compass.

**BETHLEHEM SHIPBUILDING CORPORATION, LIMITED.**  
**UNION PLANT**

**Builder's Signature.** Date **Jan 28-1921**

## GENERAL REMARKS.

**Asst. General Manager.**

This installation has been fitted in accordance with Rule Requirements, tested under working conditions and found in order and the vessel is eligible, in my opinion, to have notation of Electric Light in the Register Book.

It is submitted that

this vessel is eligible for  
THE RECORD Elec. light.

Committee's Minute

**Surveyor to Lloyd's Register of Shipping.**

**New York FEB - 8 1921**

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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