

2024

# Inspection of Automatic Sprinkler System

**ASIB**



## Inspection of Automatic Sprinkler System

BW2 Seraphim Solar East London  
Industrial Development Zone

Complete

### Client/Site Name

BW2 Seraphim Solar East London Industrial Development Zone

### Billing Address

East London Industrial Development Zone SOC Ltd P O Box 5458  
GREENFIELDS  
5208

### Attention:

Mteteleli Zantsi  
Camagwini Ngxokolo-Nomatye

### Document No

UNC.10622

### Prepared by

Keith van Onselen

### Conducted on

09.05.2024 08:00 SAST

### Site Location

East London  
EC  
5201  
South Africa

## Disclaimer

We have pleasure in attaching our inspector's report.

Whilst every care is taken in the preparation of the report which describes the conditions as found, such report is not a guarantee carrying responsibility for results and neither this Company nor any of its employees or agents shall be liable for any loss or damage of whatsoever nature and howsoever caused, (whether by actual or alleged negligence or otherwise), in any way arising out of the acts or omissions of the Company and/or its employees or agents aforesaid.

The report is based upon the visual inspection of the external condition of the equipment where accessible without having to provide scaffolding, ladders, staging, lighting and not requiring the removal or displacement of any temporary or permanent structure, fitting or fixture.

If there are any points arising on which you require clarification, kindly communicate with the undersigned. Assuring you of our best attention at all times.

### Confidentiality

In order to maintain the integrity and credibility of the inspection processes and to protect the parties involved, it is understood that the inspectors will not divulge to unauthorized persons any information obtained during this inspection unless legally obligated to do so.

Yours faithfully,

THE AUTOMATIC SPRINKLER INSPECTION BUREAU (PTY) LIMITED



Nico van Loggerenberg  
Managing Director

## 1. Report Summary

### THE AUTOMATIC SPRINKLER INSPECTION BUREAU (PTY) LIMITED



REGISTRATION NUMBER: 1970/010833/07

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CNR LOUIS BOTHA AND  
TUDHOPE AVENUES  
BEREA  
JOHANNESBURG  
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INDEPENDENT  
THIRD PARTY  
INSPECTION AND  
ADVISORY  
SERVICE SINCE  
1970

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#### Code

PC - Partial Protection, Clearance  
Certificate not Issued

Partial clearance certificate withheld due to the following:

#### Sprinkler System - Excessive Fault



This in relation to the issues highlighted with the ESRF system installed

#### Standard

10th Edition

11th Edition

#### ASIB Contract No

UNC.10622

#### Client Order No

PO-004203

#### Was the sprinkler system design in order

Yes

#### Was the water supplies in order

No

Refer to report UNC.9478 conducted on 08/05/2024

#### Was the pump room in order

Yes

Refer to report UNC.9478 conducted on 08/05/2024

#### Was the installation control valves in order

No

Refer to Installation Control Valves - Section 7.

#### Was the storage in order

Yes

2. Hand Fire Appliances

Hand Fire Appliances - One unit per 100 m<sup>2</sup> of floor area.

Hand fire appliances date of the last service:

08/2022

Are the hand fire appliances due for their service.

Yes



Photo 1

Clear access to the hand fire appliances must be maintained at all times.

### 3. Occupancy & Storage Guidance

Percentage Hazard.

**% Ordinary Hazard**

10  
From 0 to 100

**% High Hazard**

90  
From 0 to 100

Stack height signs not less than 500 mm by 500 mm in size must be prominently displayed at the maximum level of the allowable storage height in all storage and process risk areas.

Occupancy / Process Risk

Occupancy/Risk

Occupancy/Risk 1

► **Ordinary Hazard / High Hazard**

High Hazard

► **Select Occupancy / Process Risk**

Process Risk

Storage Risk

#### Specify Process

Solar panel manufacturer

**Category**

CAT II

**Design Density (mm/min)**

7,5 mm/min

Where goods of differing categories are stored within the same area, it is the stack height limitations of the goods with the highest category that will apply.

► **Product Stored**

Solar panels in cardboard boxes

**Category**

CAT III

Storage

Method

Method 1

**Storage Method**

Free Standing / Block Storage

<b>Design Density (mm)</b>	ESFR
<b>ESFR K-Factor</b>	
20	
<b>Roof Height (m)</b>	11
<b>Storage Height (m)</b>	
7,6	

4. Sprinkler System Design

Building

Building 1

Building Name

BW2 Seraphim Solar East London Industrial Development Zone

Date of First Inspection

Unknown

Original Installer

Unknown

Extension By

Unknown

Building Area m<sup>2</sup>

4100

Height of Building in meters

10,55

As taken from previous report

Sprinkler Detail

Area

Area 1

► Area & Type of Sprinklers

Roof Sprinklers

Ceiling Sprinklers

Void Sprinklers

Canopy Sprinklers

Number of Sprinklers

Approximately 600

Calculations

Hydraulic Calculations



Area of Operation	
Area of Operation 1	
► Area of Operation	Pump Duty
<b>Flows &amp; Pressures</b> 7500 l/min @ 950 kPa	
Area of Operation 2	
► Area of Operation	Roof Most Remote Area of Operation
<b>Flows &amp; Pressures</b> 5590 l/min @ 719 kPa	
Area of Operation 3	
► Area of Operation	Roof Most Favourable Area of Operation
<b>Flows &amp; Pressures</b> 5580 l/min @ 805 kPa	
Additional Sprinkler System Designs Required	No

5. Water Supplies

► Water Stored on Site.

Yes

Refer to report UNC.9478 conducted on 08/05/2024

Add Water Storage Tanks





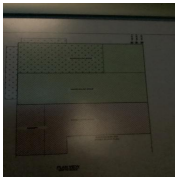

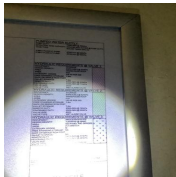
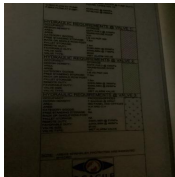
6. Pump Room

Pump Installed on Site

Yes

Refer to report UNC.9478 conducted on 08/05/2024

Add Pump House

<b>7. Installation Control Valve(s)</b>	
<b>7.1 Sprinkler control valves accessible</b>	Yes
Valve Cabinet	
Valve Cabinet 1	
<b>Location:</b>	
West side of building	
<div>    </div> <div> <span>Photo 2</span> <span>Photo 3</span> <span>Photo 4</span> </div>	
<b>Number of Alarm Valves Installed</b>	1 x 100 mm, 2 x 200 mm
<b>7.2 Sprinkler Valve Location Plate Installed</b>	Yes
<b>7.3 Fire Brigade Booster Pressure Limitation Plate</b>	Yes
<b>7.4 Block Plan Installed</b>	Yes
<b>7.4.1 Is the block plan labelled in accordance with the areas fed by the sprinkler control valve assemblies</b>	Yes
<b>7.4.2 Are the correct installation details recorded on the block plan</b>	Yes
<div>      </div> <div> <span>Photo 5</span> <span>Photo 6</span> <span>Photo 7</span> <span>Photo 8</span> <span>Photo 9</span> </div>	
<b>7.5 Sprinkler Valve Instruction Chart</b>	Yes
<b>7.6 Is a sprinkler spares box present</b>	Yes
<b>7.6.1 Was the spares box contents accessible</b>	Yes
<b>7.6.2 Are the spares quantities correct</b>	Yes
<b>7.7 By Pass Arrangement Installed</b>	No

It is recommended a valve bypass assembly be provided at each installation control valve. This allows the alarm valve to be overhauled without isolating the system and prevents wastage of water.

### 7.8 Fire Brigade Booster Connections Installed Correctly and Accessible

No



Photo 10

Installations must be fitted with fire brigade booster connections which will enable the fire brigade to pump water into the installation using their own equipment.

**It appears that the booster connection piping to the main distribution riser is too long, which may restrict the opening of the booster plunger into the main distribution riser, this will prevent effective boosting of the sprinkler system and must be revised.**



### 7.9 Are the Installation Control Valves Housed within an Approved Valve Cabinet

Yes

**Sprinkler protection is required within the valve cabinet**



### 7.10 Flow Switch Installed Correctly

Yes

Pressure switches installed

### 7.11 Manifold Correctly Supported

Yes

### 7.12 Riser Mains Correctly Supported

Yes

### 7.13 Riser Mains Externally Located

No

### 7.14 Flow Measuring Device Installed.

Yes



Photo 11



Photo 12

### Flow Test Results

Pass

### Recorded Flow and Pressure

6000 l/min @ 1000 kPa

### 7.15 Correct Pressure Gauges Installed

Yes

<b>7.16 Correct Gauge Cocks Installed</b>	Yes
<b>7.17 Flanges Short Bolted</b>	Yes
 <p>Photo 13</p>	
<p>The bolts for these flanges must be removed and replaced with the correctly sized bolts so as to ensure that at least two full thread pitches past the chamfer protrude beyond the nut.</p>	
<b>7.18 Loose / Missing Bolts, Nuts &amp; Washers</b>	No
<b>7.19 False Alarm Prevention Pump Installed</b>	N/A
<b>7.20 Drain &amp; Test Pipes Installed Correctly</b>	No
<p><b>The water motor alarm drain pipes discharge into a common manifold. This must be revised so that the drain pipes are taken separately to waste.</b></p> <p style="text-align: right;"><input checked="" type="checkbox"/></p>	
<p>7.21 Weekly tests of the installation control valves alarm bell must be carried out with the alarms sounding for at least thirty seconds.</p> <p>All water pressure gauge readings must be checked and recorded.</p> <p>The testing and records should be carried out by a member of staff delegated to do this.</p>	
<b>7.22 Trunk Main Pressure (kPa)</b>	
1100	
<b>7.23 Installation Pressure (kPa)</b>	
1400	
<b>7.24 ASIB Overhaul Date Tag No</b>	Yes
<b>Last Overhaul Date</b>	
11/2021	
<b>Next Overhaul Date</b>	
11/2024	
<b>7.25 Alarm Motor &amp; Gong Test</b>	Passed
<b>7.26 Are All Valves in the Correct Positions</b>	Yes

7.27 Are All Valves Secured

Yes

Non Compliance - Items

Item

Item 1

Non Compliance Items

► Description

Other

Item No. 6.6.8. Maximum 1200 kPa churn pressure exceeded.



Photo 14

Recommendation Items

**8. Storage**

**Are the required clearances being maintained.**

Yes

**Are the storage heights exceeded.**

No

At the time of inspection the storage heights were being adhered to and found to be in order.



## 9. Sprinkler System

### Sprinkler System

#### Area

#### Area 1

#### Specified Area.

Warehouse

### System Issue

#### Issue

#### Issue 1

#### Finding

Other

#### Specify Other.



#### ESFR Natural Ventilation

ventilation has been installed in conjunction with ESFR sprinkler protection. Mechanical ventilation is accepted.

It is imperative that the mechanical vents do not open automatically in a fire situation as the ESFR sprinkler system will be adversely effected which could result in the ESFR system failure.

It is important that the mechanical vents be manually operated and that the Fire Chief in charge of operations during a fire be able to make the decision whether it should be opened or remain closed.

#### Location of Finding.

#### Roof monitor

The effect of the ventilators installed in the roof may be considered as open ventilation. Their effect on the operation of the installed ESFR installation would be unknown. In order to have the finding satisfied, the OEM would need to be contacted and asked to define the ventilators in respect of ESFR operation and confirm them as an acceptable roof ventilation service. Any Clearance ASIB awards the site would exclude the potential negative impact the ventilators may have on the protection installed.

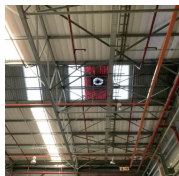


Photo 15

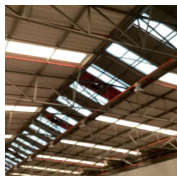


Photo 16

#### Issue 2

#### Finding

Other

#### Specify Other.



Maximum roof angle exceeded.

The maximum roof angle of 9,5 degrees for effective ESFR protection appears to have been exceeded, this must be investigated and addressed by your installer.

### Location of Finding.

Roof monitors

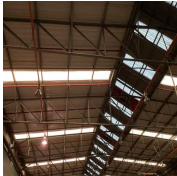


Photo 17

### Issue 3

#### Finding

Other

#### Specify Other.



Combustible roof sheeting/insulation is not acceptable above ESFR protection

ESFR sprinklers can only be located beneath non-combustible surfaces. Combustible translucent sheeting, may in the event of a fire negatively impact the operation of the ESFR installation. Heads or sheets would require to be relocated appropriately in order to satisfy this item.

### Location of Finding.

Roof

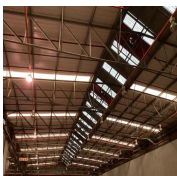


Photo 18

### Issue 4

#### Finding

Other

#### Surfaces exceeding 1,0 metre in width.



Surfaces which exceed 1,0 metre in width will obstruct the water discharged from the sprinklers above which could result in an ignition beneath these surfaces not being controlled or extinguished.

**These must be sprinkler protected on their underside if, in the case of square or rectangular trunking, ducts or cable trays they exceed:**



800 mm in width and are closer than 150 mm from a wall, or 1,000 mm on width and are further than 150 mm from a wall.

Location of Finding.

Various



Photo 19



Photo 20

Area 2

Specified Area.

Other

Specify Area

Production area

System Issue

Issue

Issue 1

Finding

Sprinkler Spacing

Sprinklers exceed 600 mm from walls of a cold room or freezer (11th Edition).



Location of Finding.

Main hall back wall

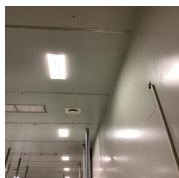


Photo 21

Issue 2

Finding

Other

Sprinkler protection required beneath bulkheads which exceed 800mm in depth.



Location of Finding.

Electrical DB



Photo 22

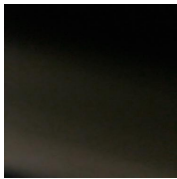


Photo 23

Issue 3

Finding

Other

**Surfaces exceeding 1,0 metre in width.**



Surfaces which exceed 1,0 metre in width will obstruct the water discharged from the sprinklers above which could result in an ignition beneath these surfaces not being controlled or extinguished.

Location of Finding.

Conveyors in laminating room



Photo 24



Photo 25

Issue 4

Finding

Pipe Support

**Distribution rise/drop pipes shall be secured directly to the building structure or by hangers securing horizontal distribution pipes within 300 mm of the riser.**



Location of Finding.

Dropper to offices



Photo 26

**General Notes**

Yes

T must be determined if sprinkler protection can be installed in the laminating machines



Photo 27



Photo 28

## 10. Proof of Inspection

Proof of inspection.

For and on behalf of client:

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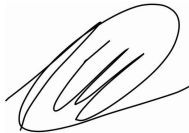
Camagwini Ngxokolo-Nomatye  
10.05.2024 15:05 SAST

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Proof of inspection.

ASIB Inspector:

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Keith van Onselen  
10.05.2024 15:05 SAST

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### WARNING

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The primary function of the ASIB is to protect the interests of the end user and as a result, we constantly update the list of registered suppliers and installing companies.

These companies have proven that they are capable of installing, extending and servicing fire sprinkler systems to the correct standards.

We have had occasion to remove companies for valid reasons which are not confidential and include, but are not limited to, poor workmanship, design, fabrication, incorrect advice, lack of skilled staff, fraudulent quotations and financial instability.

It is important to note that if a company is not listed with the ASIB and carries out work on a sprinkler system we will not be in a position to issue a Clearance Certificate for the premises which, in turn, may place you at risk.

In selecting your service provider, it is important to appreciate that the ASIB is not seeking to infer that a non-listed service provider is necessarily not capable of offering the required service to an appropriate standard. What the ASIB is saying, is that the ASIB is not in a position to give you the assurance that a non-listed provider concerned has demonstrated that it complies with the ASIB standards. In addition, because the ASIB is unable to fully inspect an installation (which by its nature has many inaccessible components), you will appreciate that the ASIB is also unfortunately not in a position to issue a Clearance Certificate in relation to an installation done by a non-listed company.

We advise you to check the listing status of the service provider you choose especially if there is any uncertainty.

You can access our website at <http://www.asib.co.za> which is current or phone our offices at 011 642 1703 for verification.

Email:

Email: 1

**Recipient**

camagwini@elidz.co.za

Email: 2

**Recipient**

Mteteleli@elidz.co.za

Media summary



Photo 1



Photo 2



Photo 3



Photo 4



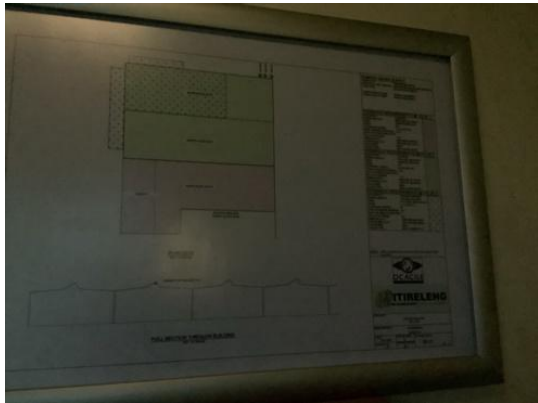


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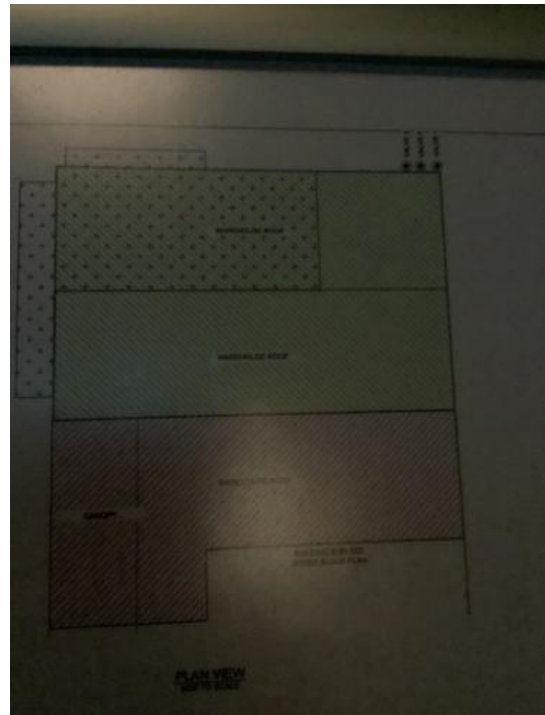


Photo 6



Photo 7

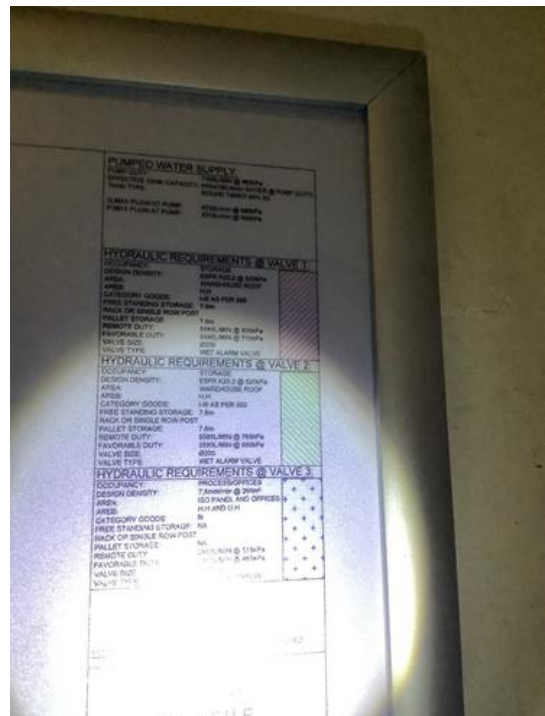


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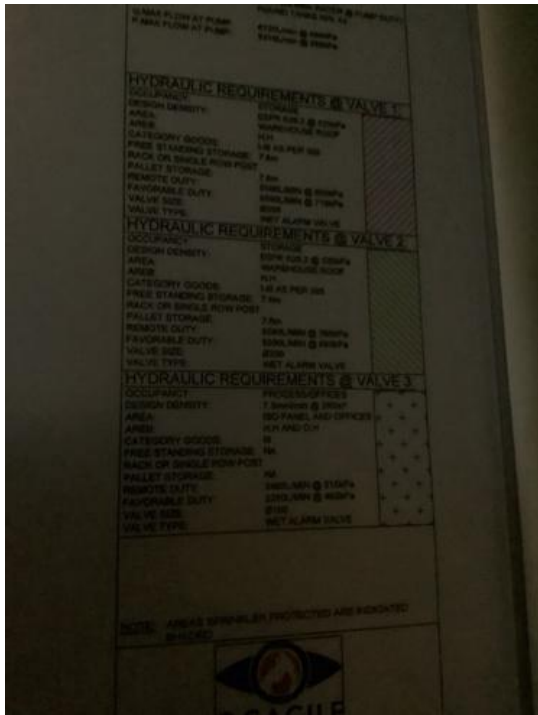


Photo 9



Photo 10

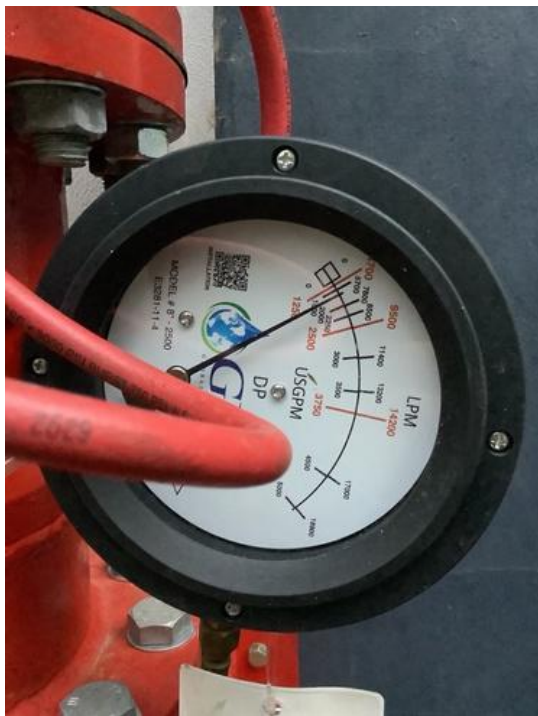


Photo 11



Photo 12



Photo 13



Photo 14



Photo 15



Photo 16





Photo 17

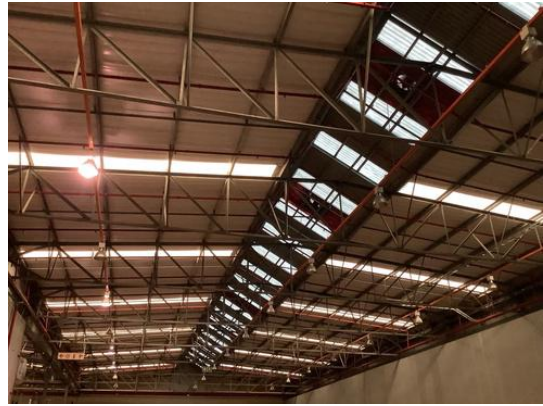


Photo 18



Photo 19



Photo 20



Photo 21



Photo 22

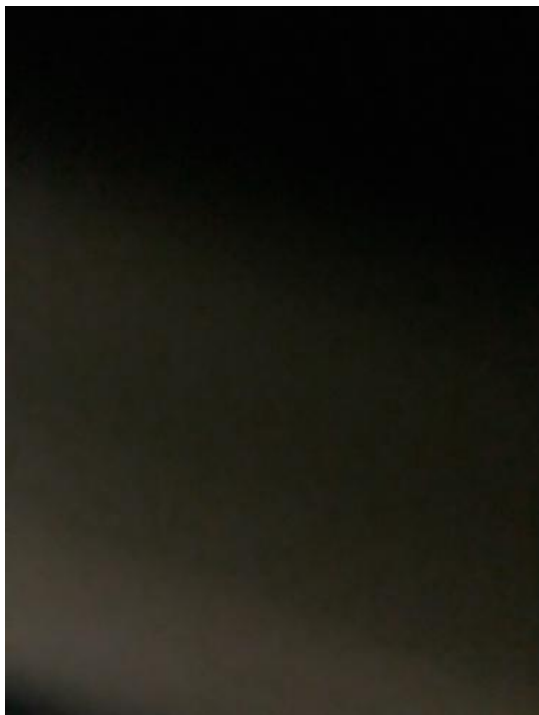


Photo 23



Photo 24



Photo 25



Photo 26



Photo 27



Photo 28