# RADIATION SURVEY WORKSHEET

eXaminer Radiation Survey Information

| | | | | | |
|---|---|---|---|---|---|
| Airport: | *Tucson Airport* | Scanner Location: | *Baggage Handeling Room* | Case#: | TUS-C356902 |
| Personnel Performing Radiation Survey: | [redacted] | | | Date Survey Performed: | *3/8/2011* |

| Scanner Serial Number: | *6231* | Entrance Tunnel Serial Number: | *2164A* | Exit Tunnel Serial Number: | *2164B* |
|---|---|---|---|---|---|
| High Reading: | 36 | High Reading: | 270 | High Reading: | 105 |
| Average Reading: | 14.79 | Average Reading: | 54.77 | Average Reading: | 29.02 |
| Min. Reading: | 7 | Min. Reading: | 6 | Min. Reading: | 10 |
| **Good** | | **Good** | | **Good** | |

| **Radiation Meter:** | Type Meter: | **450P** | Meter Serial Number: | **4465** | Calibration Due Date: | *August 13, 2011* |
|---|---|---|---|---|---|---|

NOTES

## Complete Radiation Survey (CRS)

**Rename this Document before starting the Survey to:**

**TUS-CRS-8MAR2011-6231**

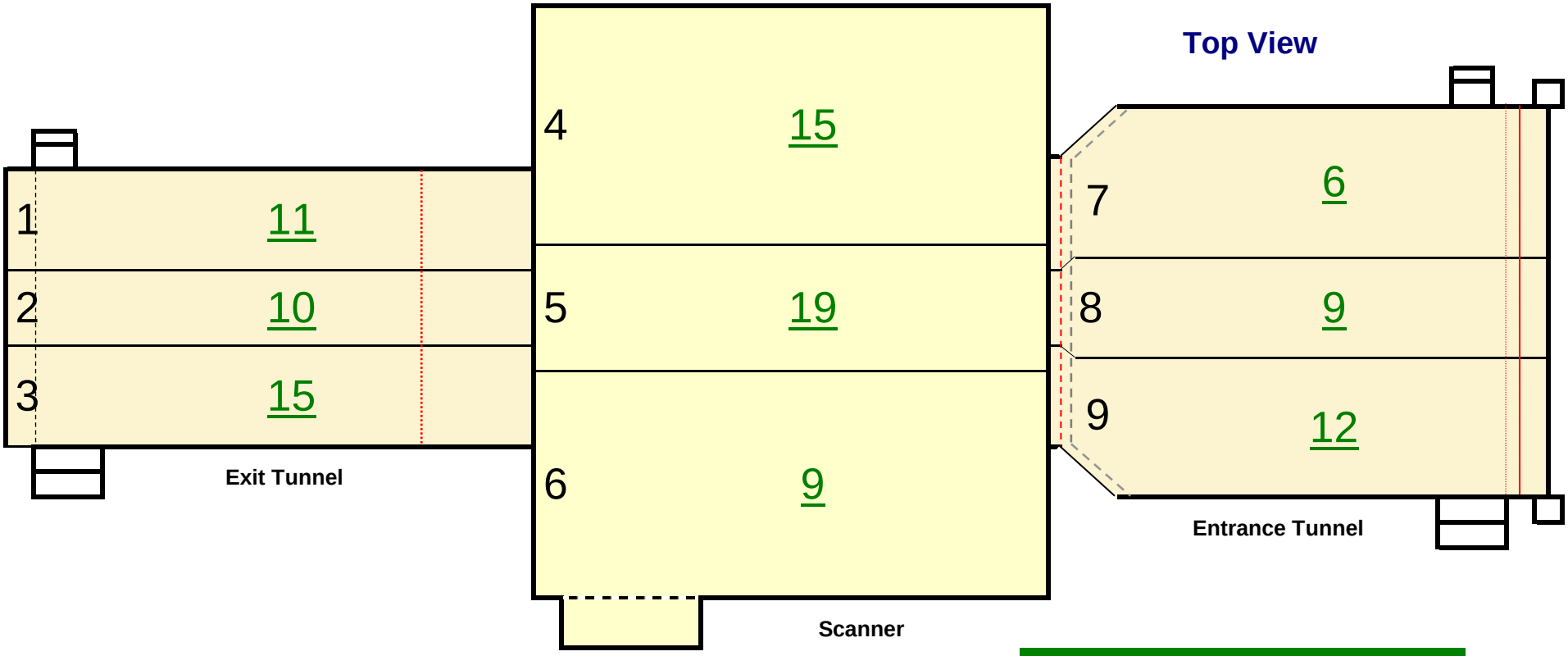
**Record Voltage and Bean Current here:**

| Voltage: | 165 | KV | Beam Current: | 9.8 | mA |
|---|---|---|---|---|---|

| **Maximum Safe Readings** | **Scanner** | 350 | **Tunnels** | 350 | **Curtains** | 350 |
|---|---|---|---|---|---|---|

| Step: | Procedure | Expected results |
|---|---|---|
| 1. | Set Up: Obtain Inovision Ion Chamber Survey Meter and in an area away from the scanners, turn on the meter by pressing the On-Off key. Wait approx. 4 minutes for the meter to run through the initialization procedure. | The GUI will be visible and will indicate Standby. After the radiation meter initialization procedure is complete the meter will be reading less than 20 µR/hr and the meter will be ready for use. |
| 2. | The scanner will be in Standby. Change the conveyor switch on the scanner to Stop. Change the exit tunnel conveyor switch to Off to stop the conveyor. | Both conveyors should be stopped. |
| 3. | On the GUI dropdown screen, select diagnostic, followed by Radiation Survey. A radiation survey window will appear. Click “Turn On” button to turn x-rays on. Turn on x-rays prompt will say “Place survey bag on belt”. Place IQTK bag on Entry Conveyor Belt. | A window indicating “Radiation Survey” will appear. |
| 4. | When “Bag in survey position” appears, go to the FCC monitor and select "2" then <Enter>, verify and record the voltage and current in the displayed on the FCC screen in the planks provided above. | The high voltage is between 144KV and 176KV. The current is between 8.8mA and 10.6mA and the scanner X-ray indicator lights are on. |
| 5. | Survey one of the areas indicated by the boxes in Appendix A2. Record the highest reading within the area. Repeat the process until all areas are surveyed and readings are recorded. | As the survey is conducted, the radiation meter indicates the degree of radiation emission. |
| 6. | Review all radiation data sheets for high readings. | Readings shall not exceed 350 uR/hr in any box. |
| 7. | After radiation survey is complete, click on “Start Conveyor” button on the GUI. Click the “Turn Off” button to turn off x-rays. Next click “Done”. The IQTK bag will eject from exit tunnel. EDAC will reboot. | IQTK bag is ejected and scanner reboots. |
| 7. | Visually inspect the entrance and exit of the system for X-ray caution hazard signs. | X-ray hazard signs reading “Do not insert any part of the body when system is energized” are posted at entrance and exit of system. |
| 9. | Fill out the eXaminer radiation stickers and place on the eXaminer in accordance with Examiner Technical Bulletin ex253. | Readings shall not exceed 350 uR/hr in any box. |

# RADIATION SURVEY WORKSHEET



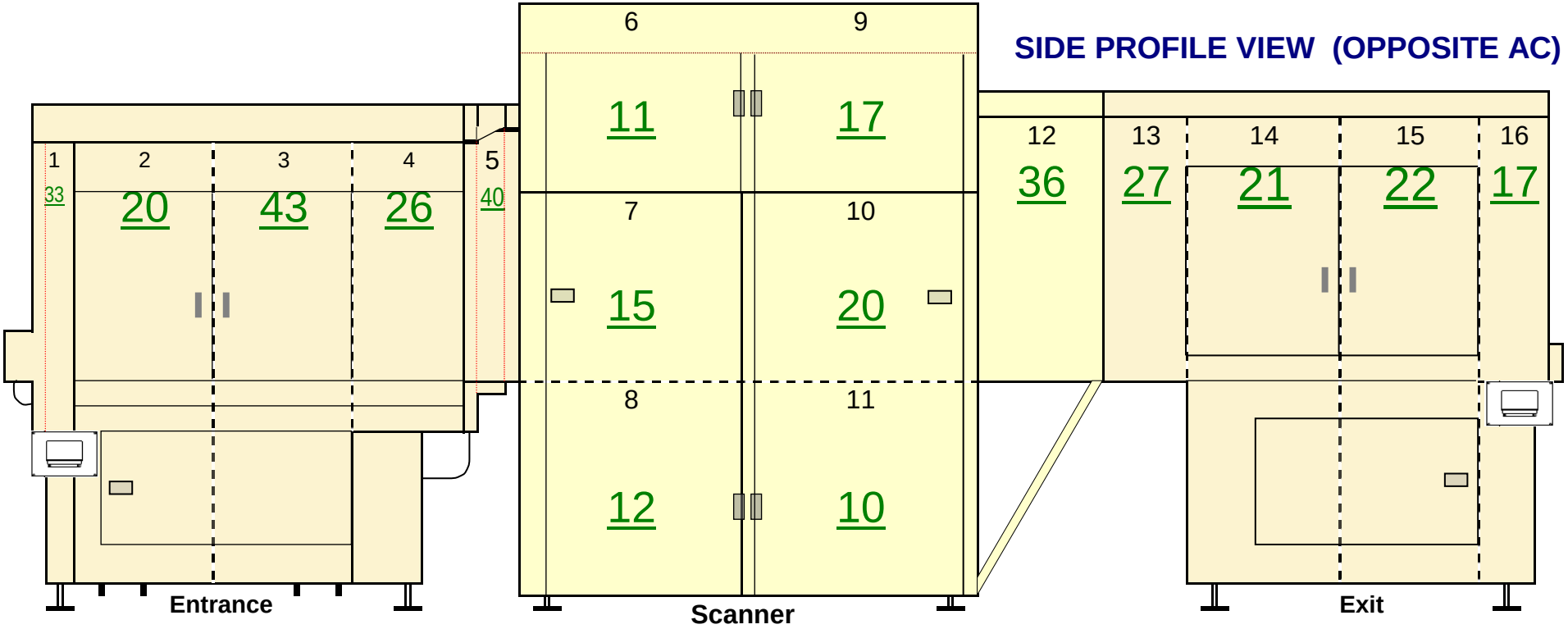

**GOOD**

| Top View | | | |
|---|---|---|---|
| Scattered Radiation Measurement Points Worksheet | | | No PROBLEM |
| Record highest reading per panel | | µR/Hr | |
| 1 | Exit Conveyor Top Panel | 11 | |
| 2 | Exit Conveyor Top Panel | 10 | |
| 3 | Exit Conveyor Top Panel | 15 | |
| 4 | Scanner Conveyor Top Panel | 15 | |
| 5 | Scanner Conveyor Top Panel | 19 | |
| 6 | Scanner Conveyor Top Panel | 9 | |
| 7 | Entrance Conveyor Top Panel | 6 | |
| 8 | Entrance Conveyor Top Panel | 9 | |
| 9 | Entrance Conveyor Top Panel | 12 | |

| | |
|---|---|
| Highest Reading | 19 |
| Average Reading | 12 |
| Lowest Reading | 6 |

# RADIATION SURVEY WORKSHEET

## SIDE PROFILE VIEW (OPPOSITE AC)

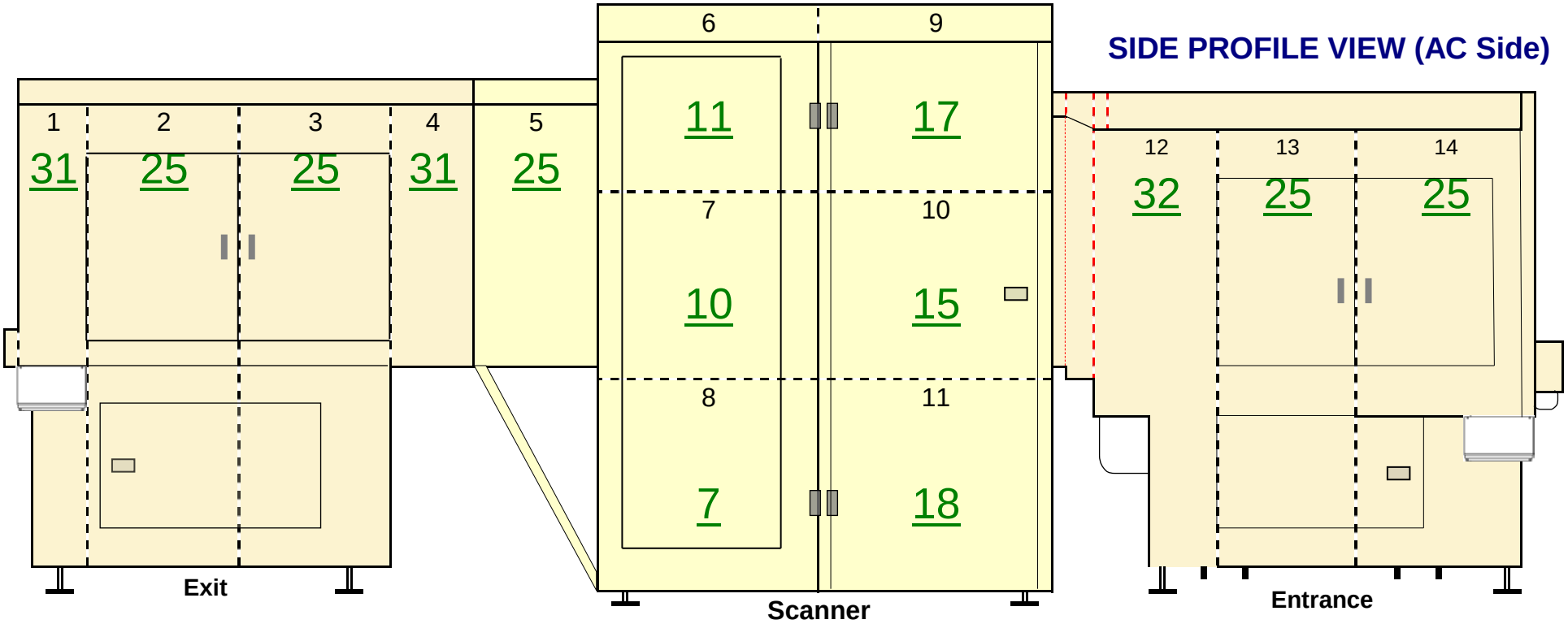



| SYSTEM - SIDE PROFILE VIEW (Opposite AC Side) | | | |
|---|---|---|---|
| Scattered Radiation Measurement Points Worksheet | | | No PROBLEM |
| Record highest reading per panel | | µR/Hr | |
| 1 | Entrance Conveyor Panel | 33 | |
| 2 | Entrance Conveyor Panel | 20 | |
| 3 | Entrance Conveyor Panel | 43 | |
| 4 | Entrance Conveyor Panel | 26 | |
| 5 | Entrance Conveyor / Scanner Panel | 40 | |
| 6 | Upper Scanner Panel | 11 | |
| 7 | Middle Scanner Panel | 15 | |
| 8 | Lower Scanner Panel | 12 | |
| 9 | Upper Scanner Panel | 17 | |
| 10 | Middle Scanner Panel | 20 | |
| 11 | Lower Scanner Panel | 10 | |
| 12 | Exit Conveyor / Scanner Panel | 36 | |
| 13 | Exit Conveyor Panel | 27 | |
| 14 | Exit Conveyor Panel | 21 | |
| 15 | Exit Conveyor Panel | 22 | |
| 16 | Exit Conveyor Panel | 17 | |

GOOD

| | |
|---|---|
| Highest Reading | 43 |
| Average Reading | 23 |
| Low Reading | 10 |

# RADIATION SURVEY WORKSHEET



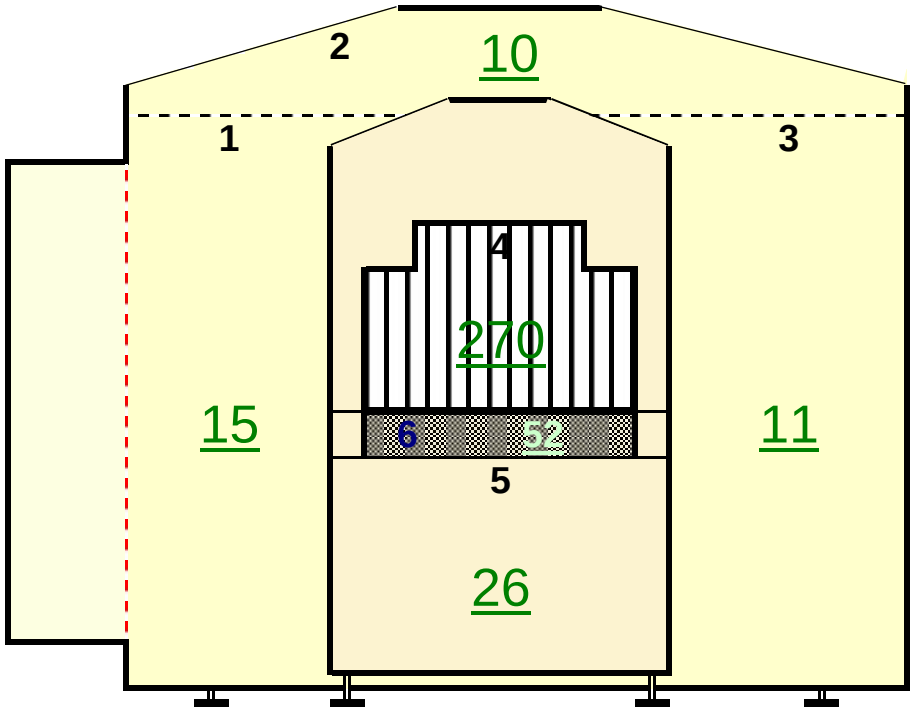

| SYSTEM - SIDE PROFILE VIEW ( AC Side) | | | |
|---|---|---|---|
| Scattered Radiation Measurement Points Worksheet | | | No PROBLEM |
| Record highest reading per panel | | µR/Hr | |
| 1 | Exit Conveyor Panel | 31 | |
| 2 | Exit Conveyor Panel | 25 | |
| 3 | Exit Conveyor Panel | 25 | |
| 4 | Exit Conveyor Panel | 31 | |
| 5 | Exit Conveyor / Scanner Panel | 25 | |
| 6 | Upper Scanner Pane | 11 | |
| 7 | Middle Scanner Panel | 10 | |
| 8 | Lower Scanner Panel | 7 | |
| 9 | Upper Scanner Panel | 17 | |
| 10 | Middle Scanner Panel | 15 | |
| 11 | Lower Scanner Panel | 18 | |
| 12 | Entrance Conveyor / Scanner Panel | 32 | |
| 13 | Entrance Conveyor Panel | 25 | |
| 14 | Entrance Conveyor Panel | 25 | |

GOOD

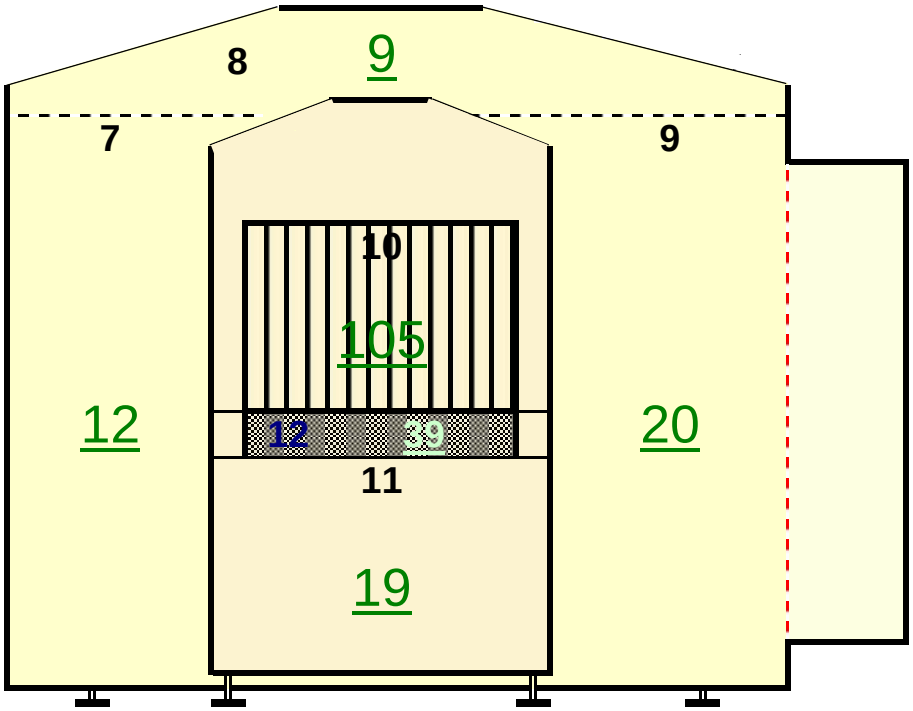
| | |
|---|---|
| Highest Reading | 32 |
| Average Reading | 21 |
| Low Reading | 7 |

# RADIATION SURVEY WORKSHEET

## SYSTEM - FACES (End Views)




eXaminer entrance




eXaminer exit

| SYSTEM - FACES (End Views) | | | |
|---|---|---|---|
| Scattered Radiation Measurement Points Worksheet | | | No PROBLEM |
| Record highest reading per panel | | µR/Hr | |
| 1 | Scanner Panel | 15 | |
| 2 | Scanner Top Panel | 10 | |
| 3 | Scanner Panel | 11 | |
| 4 | Belt Entrance | 270 | |
| 5 | Entrance Lower Panel | 26 | |
| 6 | Belt Lower Facia Cover Entrance | 52 | |
| 7 | Scanner Panel | 12 | |
| 8 | Scanner Top Panel | 9 | |
| 9 | Scanner Panel | 20 | |
| 10 | Belt Exit | 105 | |
| 11 | Exit Lower Panel | 19 | |
| 12 | Belt Lower Facia Cover Exit | 39 | |

GOOD

| | |
|---|---|
| Highest Reading | 270 |
| Average Reading | 49 |
| Low Reading | 9 |