

# RADIATION SURVEY WORKSHEET

## eXaminer Radiation Survey Information

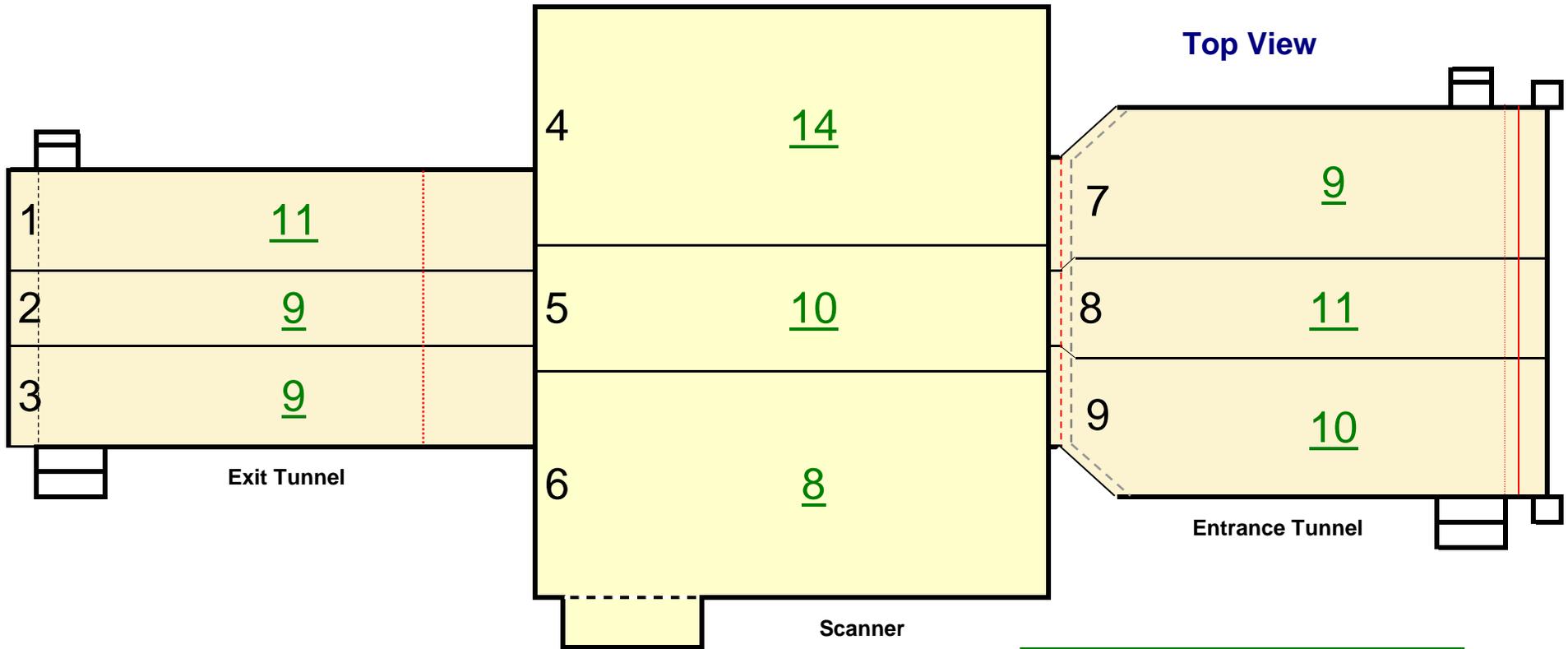
Airport: <b>Tucson Airport</b>	Scanner Location: <b>Baggage Handling Room</b>	Case#: <b>TUS-C356901</b>
Personnel Performing Radiation Survey: <span style="background-color: black; color: black;">XXXXXXXXXX</span>		Date Survey Performed: <b>3/7/2011</b>
Scanner Serial Number: <b>6232</b>	Entrance Tunnel Serial Number: <b>2170A</b>	Exit Tunnel Serial Number: <b>2170B</b>
High Reading: <b>22</b>	Average Reading: <b>12.86</b>	Min. Reading: <b>6</b>
High Reading: <b>67</b>	Average Reading: <b>25.12</b>	Min. Reading: <b>9</b>
High Reading: <b>250</b>	Average Reading: <b>35.71</b>	Min. Reading: <b>9</b>
<b>Good</b>	<b>Good</b>	<b>Good</b>
Radiation Meter: <b>Type Meter: 450P</b>	Meter Serial Number: <b>4465</b>	Calibration Due Date: <b>August 13, 2011</b>

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<b>Complete Radiation Survey (CRS)</b>	<b>Record Voltage and Beam Current here:</b>					
<b>Rename this Document before starting the Survey to:</b>  <b>TUS-CRS-7MAR2011-6232</b>	<b>Voltage:</b> <u>165</u> KV   <b>Beam Current:</b> <u>9.8</u> mA					
	<b>Maximum Safe Readings</b> <table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;"><b>Scanner</b></td> <td style="border: 1px solid black; padding: 2px;">350</td> <td style="border: 1px solid black; padding: 2px;"><b>Tunnels</b></td> <td style="border: 1px solid black; padding: 2px;">350</td> <td style="border: 1px solid black; padding: 2px;"><b>Curtains</b></td> <td style="border: 1px solid black; padding: 2px;">350</td> </tr> </table>	<b>Scanner</b>	350	<b>Tunnels</b>	350	<b>Curtains</b>
<b>Scanner</b>	350	<b>Tunnels</b>	350	<b>Curtains</b>	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 $\mu$ R/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 <b>144KV</b> and <b>176KV</b> . The current is between <b>8.8mA</b> and <b>10.6mA</b> 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.	<a href="#">Fill out the eXaminer radiation stickers and place on the eXaminer in accordance with Examiner Technical Bulletin ex253.</a>	Readings shall not exceed 350 uR/hr in any box.

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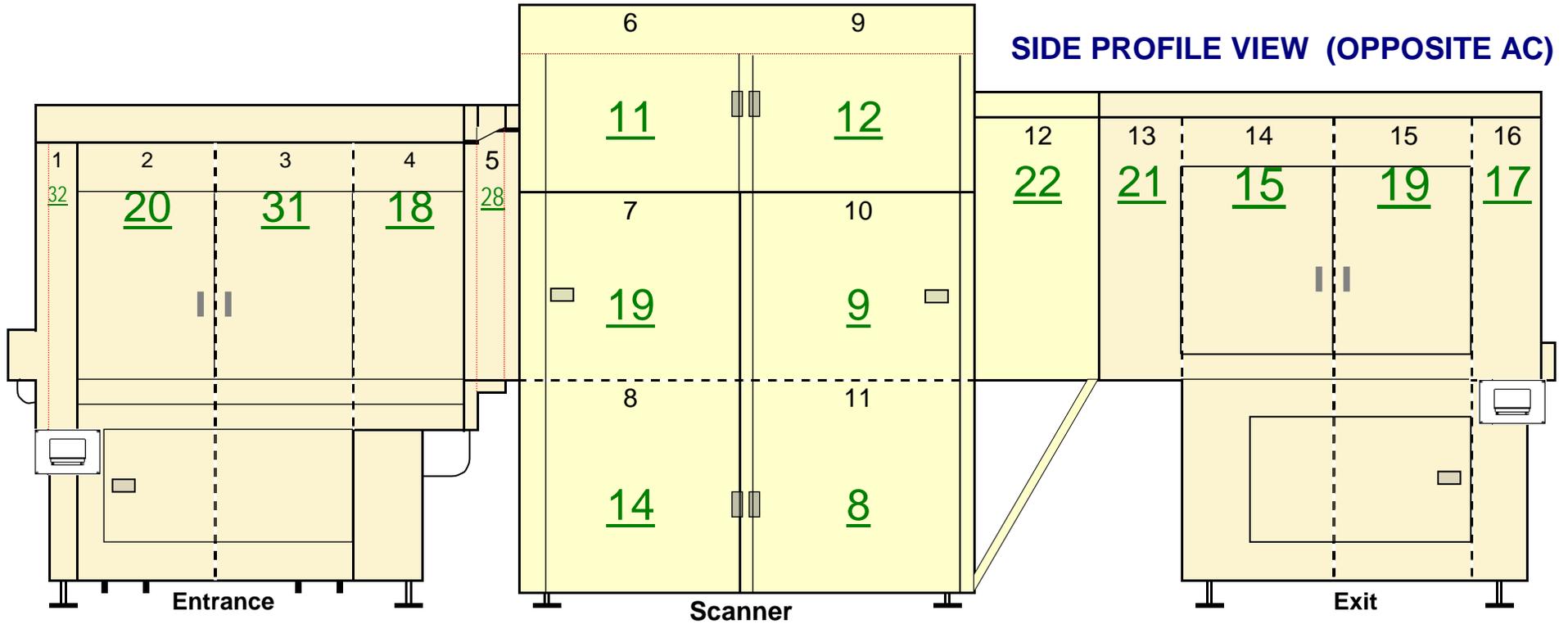


GOOD

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	9	
3	Exit Conveyor Top Panel	9	
4	Scanner Conveyor Top Panel	14	
5	Scanner Conveyor Top Panel	10	
6	Scanner Conveyor Top Panel	8	
7	Entrance Conveyor Top Panel	9	
8	Entrance Conveyor Top Panel	11	
9	Entrance Conveyor Top Panel	10	

Highest Reading	14
Average Reading	10
Lowest Reading	8

# RADIATION SURVEY WORKSHEET

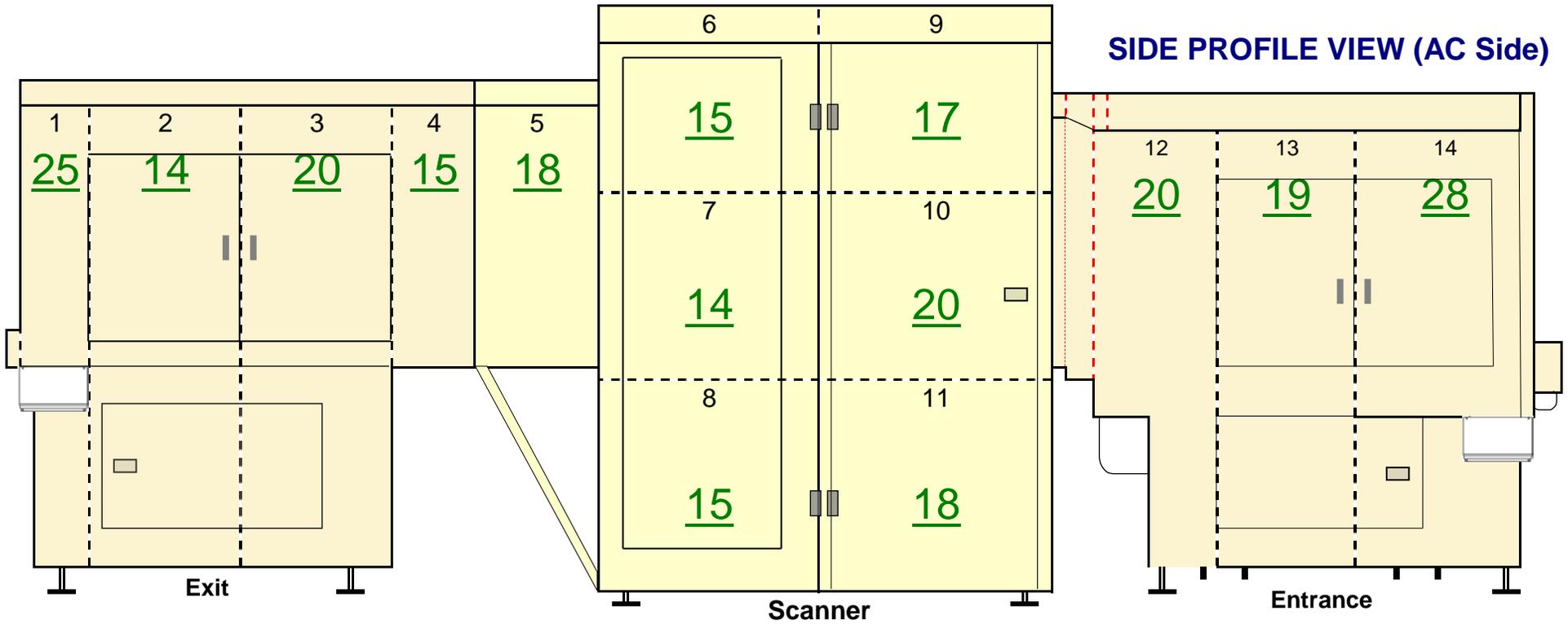


SYSTEM - SIDE PROFILE VIEW (Opposite AC Side)		
Scattered Radiation Measurement Points Worksheet		
	Record highest reading per panel	μR/Hr
1	Entrance Conveyor Panel	32
2	Entrance Conveyor Panel	20
3	Entrance Conveyor Panel	31
4	Entrance Conveyor Panel	18
5	Entrance Conveyor / Scanner Panel	28
6	Upper Scanner Panel	11
7	Middle Scanner Panel	19
8	Lower Scanner Panel	14
9	Upper Scanner Panel	12
10	Middle Scanner Panel	9
11	Lower Scanner Panel	8
12	Exit Conveyor / Scanner Panel	22
13	Exit Conveyor Panel	21
14	Exit Conveyor Panel	15
15	Exit Conveyor Panel	19
16	Exit Conveyor Panel	17

GOOD

Highest Reading	32
Average Reading	19
Low Reading	8

# RADIATION SURVEY WORKSHEET



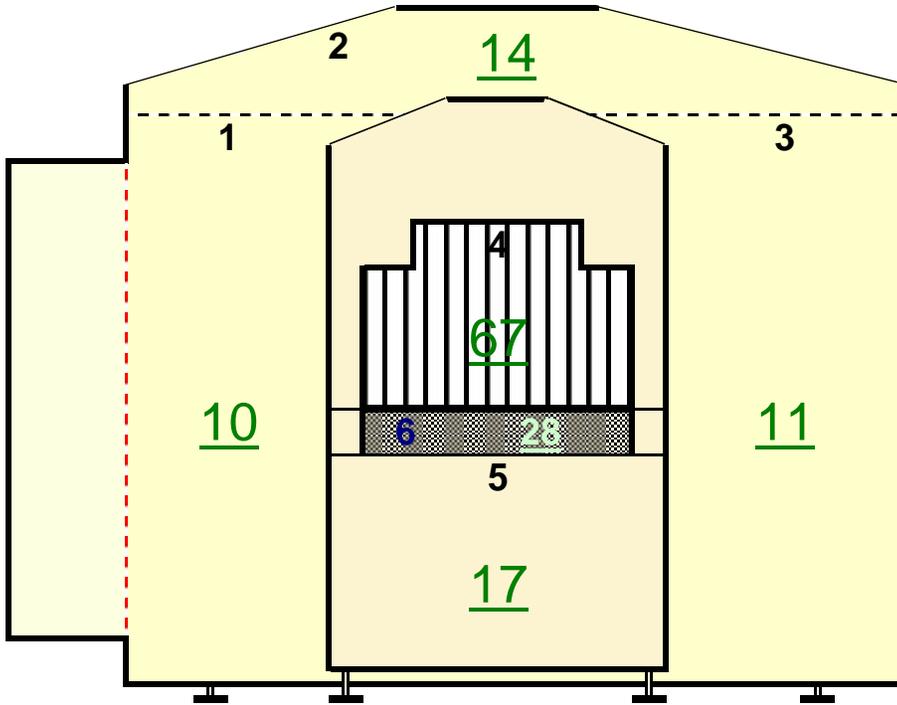
SYSTEM - SIDE PROFILE VIEW ( AC Side)			
Scattered Radiation Measurement Points Worksheet			No PROBLEM
Record highest reading per panel		$\mu\text{R}/\text{Hr}$	
1	Exit Conveyor Panel	25	
2	Exit Conveyor Panel	14	
3	Exit Conveyor Panel	20	
4	Exit Conveyor Panel	15	
5	Exit Conveyor / Scanner Panel	18	
6	Upper Scanner Pane	15	
7	Middle Scanner Panel	14	
8	Lower Scanner Panel	15	
9	Upper Scanner Panel	17	
10	Middle Scanner Panel	20	
11	Lower Scanner Panel	18	
12	Entrance Conveyor / Scanner Panel	20	
13	Entrance Conveyor Panel	19	
14	Entrance Conveyor Panel	28	

GOOD

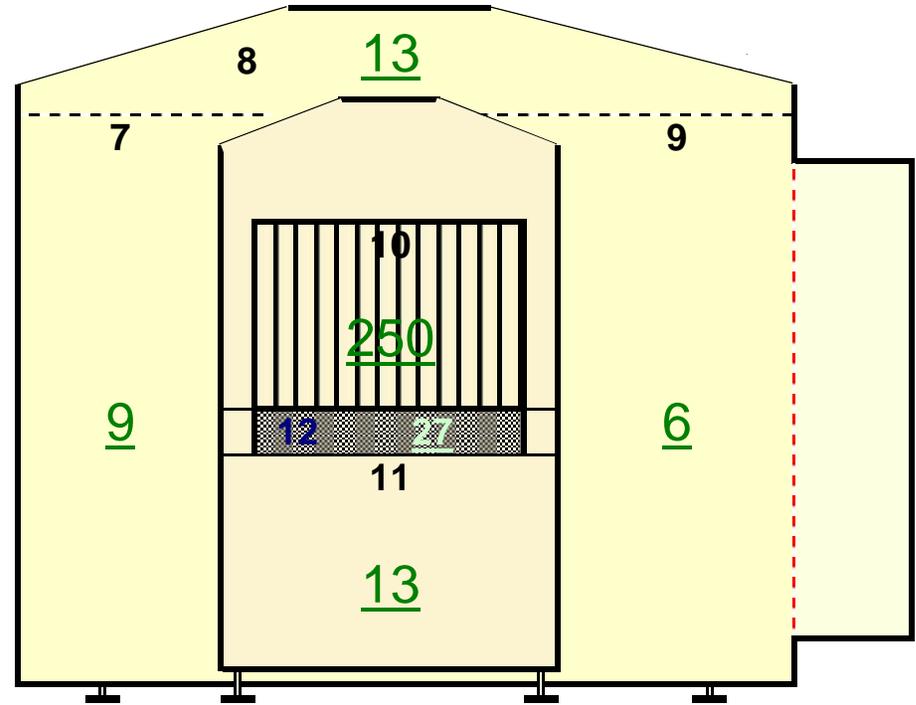
Highest Reading	28
Average Reading	18
Low Reading	14

# RADIATION SURVEY WORKSHEET

## SYSTEM - FACES (End Views)



eXaminer entrance



eXaminer exit

SYSTEM - FACES (End Views)		
Scattered Radiation Measurement Points Worksheet		
Record highest reading per panel		$\mu\text{R}/\text{Hr}$
1	Scanner Panel	10
2	Scanner Top Panel	14
3	Scanner Panel	11
4	Belt Entrance	67
5	Entrance Lower Panel	17
6	Belt Lower Facia Cover Entrance	28
7	Scanner Panel	9
8	Scanner Top Panel	13
9	Scanner Panel	6
10	Belt Exit	250
11	Exit Lower Panel	13
12	Belt Lower Facia Cover Exit	27

GOOD

Highest Reading	250
Average Reading	39
Low Reading	6