

Test RTR No.	RTR 264
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R7021 SHIELDING SURVEY RECORD (ref. OP 214)

Equipment			
Flask Serial No.	3981/01	Serial No.	Calibration Date
Package Monitor	AUTOMESS 6150 ADS/H	121977	09/11/08
Finger probe			

Loading		
Step	Description	Result or ✓
1	Measure background dose rate in area to be used for the test prior to moving container into the area.	5 μSv/h
2	Load basket and record loading plan.	✓

Loading Plan					Activity ref. date			
Posn. *	Source No	Content (kCi)	Posn.	Source No	Content (kCi)	Posn.	Source No.	Content (kCi)
1			17	786	9,445	33		
2	782	9,160	18			34		
3			19			35		
4			20			36		
5			21			37		
6			22	760	9,529	38		
7	764	9,670	23			39		
8			24			40		
9			25			41		
10			26			42		
11			27	766	9,593	43		
12	774	9,593	28			44		
13			29			45		
14			30			46		
15			31			47		
16			32			48		
TOTAL		28423	TOTAL		28567	TOTAL		
* Counting clockwise from notch when viewed from above. Start on the outer ring and move to the inner ring from 30 onwards.						GRAND TOTAL		56.990

Step	Description	Result or ✓
3	Load and re-assemble flask.	✓
4	Using contamination monitor or package monitor scan entire flask surface, including underside, for any reading over 1,000 μSv/h. Check particularly the drain and vent plugs. If found record dose rate and position and continue only if safe to do so. If none found, record 'none'. Mark highest spots on the side, top and base for future reference.	N

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Notes:


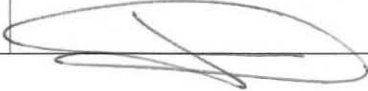
LAS MEDICIONES SE REALIZARON DESPUES DEL DROP TEST.
 NO SE COLOCARON LOS ELEMENTOS QUE CUBREN AL CUERPO.
 (Socket, Pallet).

LAS MEDICIONES FUERON HECHAS DIRECTAMENTE SOBRE LA
 PARED DEL CUERPO.

SE UTILIZÓ LA BRILLA. R8062 (48 AGUJEROS)

Pages attached: Yes (No)

If Yes how many?.....

Signed		Date	23-12-08
Witnessed/Reviewed		Date	23-12-08

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Base Surface Scan							
8	Using the monitor scan the surface in 100 mm steps in two lines across the base of the pallet in an 'X' shape continuing the line of the vertical scans.						
	North		East		South		West
Posn. *	Dose ($\mu\text{Sv/h}$)	Posn.	Dose ($\mu\text{Sv/h}$)	Posn.	Dose ($\mu\text{Sv/h}$)	Posn.	Dose ($\mu\text{Sv/h}$)
0	350	-	-	-	-	-	-
100	290	100	240	100	270	100	325
200	150	200	215	200	210	200	170
300	620	300	560	300	500	300	590
400		400		400		400	

* distance from centre, starting from below drain point and moving anti-clockwise seen from below.

Special Areas Scan		
Step	Description	Result
9	Use the finger probe to measure the dose rate on the jacket directly over the drain plug.	160 $\mu\text{Sv/h}$
10	Use the finger probe to measure the dose rate on the top shield directly over the vent plug.	1540 $\mu\text{Sv/h}$
11	Use a package monitor to measure the maximum dose rate around the mid-height of the grill.	$\mu\text{Sv/h}$

Maximum Surface dose rate		
12	Maximum surface dose rate from all surveys above.	1540 $\mu\text{Sv/h}$
13	Subtract background from maximum dose rate, multiply by 140 and divide by total test activity (kCi).	3770 $\mu\text{Sv/h}$

Transport Index Scan		
14	Using a metre rule and the package monitor scan the flask at a distance of one metre from the surface on the sides, top and base. Record the maximum dose rate observed and its position. Pay particular attention to high dose areas identified in the previous surveys.	Top: 105 $\mu\text{Sv/h}$ Sides: 42 $\mu\text{Sv/h}$ Base: 28 $\mu\text{Sv/h}$
15	Subtract background from maximum dose rate above, multiply by 140 and divide by total test activity (kCi).	245 $\mu\text{Sv/h}$

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Vertical Scans							
5 Using package monitor scan vertically up the side of the jacket (starting in line with the drain point) in 100mm steps from base along four equi-spaced lines moving clockwise around the flask.							
1st Vertical (North)		2nd Vertical (East)		3rd Vertical (South)		4th Vertical (West)	
Height (mm)	Dose ($\mu\text{Sv/h}$)	Height (mm)	Dose ($\mu\text{Sv/h}$)	Height (mm)	Dose ($\mu\text{Sv/h}$)	Height (mm)	Dose ($\mu\text{Sv/h}$)
900	980	900	750	900	900	900	960
800	300	800	200	800	245	800	220
700	320	700	220	700	250	700	280
600	300	600	260	600	300	600	300
500	310	500	300	500	344	500	380
400	280	400	235	400	340	400	220
300	250	300	150	300	180	300	180
200	750	200	520	200	510	200	620
100	820	100	830	100	800	100	930
0	760	0	570	0	540	0	780

Circumferential Scan							
6 Identify the height at which the highest dose is measured above and scan horizontally around the circumference in 200 mm steps at this height starting in line with the drain point							Height 900 mm
Posn	Dose ($\mu\text{Sv/h}$)	Posn	Dose ($\mu\text{Sv/h}$)	Posn	Dose ($\mu\text{Sv/h}$)	Posn	Dose ($\mu\text{Sv/h}$)
1	990	5	830	9	590	13	
2	650	6	890	10	770	14	
3	930	7	810	11		15	
4	810	8	800	12		-	-

Top Surface Scan							
7 Using the monitor scan the surface in 100 mm steps in two lines across the top shield in an 'X' shape continuing the line of the vertical scans.							
North		East		South		West	
Posn. *	Dose ($\mu\text{Sv/h}$)	Posn.	Dose ($\mu\text{Sv/h}$)	Posn.	Dose ($\mu\text{Sv/h}$)	Posn.	Dose ($\mu\text{Sv/h}$)
0	140	-	-	-	-	-	-
50	200	50	280	50	260	50	280
100	440	100	290	100	260	100	330
150	1120	150	860	150	780	150	1830
200	400	200	360	200	290	200	520
250	530	250	600	250	620	250	770

* distance from centre, starting from above drain point and moving clockwise seen from above.

300	530	300	630	300	630	300	740
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