
***** G A M M A S P E C T R U M A N A L Y S I S *****

OYSTER CREEK NUCLEAR GENERATING STATION CHEMISTRY DEPARTMENT



Detector Name : DET02
Report Generated On : 4/17/09 3:15:44 PM
Spectral Data File Name : C:\PCNT2K\CAMFILES\1LSOLMDA\2000051.CNF
: Co-60 2.47 E-6
: Cs-137 8.47 E-8
Sample Title : 1-L Solid Releas
Sample Description : dirt #3 near cst
User ID : kg
Sample Type : 20
Sample Geometry : 1-L Marinelli
Peak Locate Threshold : 3.00
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 100 - 4096
Identification Energy Tolerance : 1.000 keV
Sample Size : 926.00 grams
Sample Taken On : 4/17/09 1:10:58 PM
Acquisition Started : 4/17/09 2:49:01 PM
Decay Time : 9.81E+001 Minutes
Live Time : 1902.0 Seconds
Real Time : 1902.5 Seconds
Dead Time : 0.03 %

Energy Calibration Used Done On : 3/21/08
Efficiency Calibration Used Done On : 3/21/08

0-9

***** B A C K G R O U N D S U B T R A C T R E P O R T *****

Detector Name: DET02

Sample Title: 1-L Solid Releas

Peak Analysis Performed on: 4/17/09 3:15:45 PM

Peak No.	Energy (keV)	Original Area	Orig. Area Uncert.	Ambient Background	Backgr. Uncert.	Subtracted Area	Subtracted Uncert.
1	76.84	6.41E+001	24.26			6.41E+001	2.43E+001
2	238.50	1.62E+002	27.33			1.62E+002	2.73E+001
3	351.88	9.07E+001	17.11			9.07E+001	1.71E+001
4	583.18	4.70E+001	11.80			4.70E+001	1.18E+001
5	609.24	9.29E+001	14.83			9.29E+001	1.48E+001
6	661.37	3.02E+001	13.85			3.02E+001	1.38E+001
7	1173.50	6.44E+002	26.75			6.44E+002	2.68E+001
8	1332.75	5.28E+002	23.55			5.28E+002	2.36E+001
9	1460.97	6.75E+001	9.21			6.75E+001	9.21E+000

M = First peak in a multiplet region

n = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.000 sigma

 ***** N U C L I D E M D A R E P O R T *****

Detector Name: DET02
 Sample Geometry: 1-L Marinelli
 Sample Title: 1-L Solid Releas
 Nuclide Library Used: C:\GENIE2K\CAMFILES\AnSolMDA.NLB

Nuclide Name	Energy (keV)	Yield (%)	Line MDA (uCi/gram)	Nuclide MDA (uCi/gram)	Activity (uCi/gram)
CS-134	563.23	8.38	1.05E-006	8.86E-008	-2.72E-007
	569.32	15.43	6.18E-007		-8.32E-008
	604.70	97.60	8.86E-008		5.71E-010
	795.84	85.40	1.69E-007		4.69E-008
	801.93	8.73	1.70E-006		7.95E-007
	1365.15	3.04	2.13E-006		-3.77E-008
+ CS-137	661.65*	85.12	1.73E-007	1.73E-007	8.47E-008

- + = Nuclide identified during the nuclide identification
- * = Energy line found in the spectrum
- > = MDA value not calculated
- @ = Half-life too short to be able to perform the decay correction

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: 1-L Solid Releas
 Nuclide Library Used: C:\GENIE2K\CAMFILES\AnSolMDA.NLB

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/gram)	Activity Uncertainty
K-40	0.996	1460.81*	10.67	3.08E-006	4.26E-007
CO-60	0.988	1173.22*	100.00	2.58E-006	1.17E-007
		1332.49*	100.00	2.37E-006	1.16E-007
CS-137	0.988	661.65*	85.12	8.47E-008	3.88E-008
BI-211	0.548	351.10*	12.20	9.88E-007	1.88E-007
		404.80	4.10		
PB-212	0.672	87.20	6.30		
		89.80	1.75		
		238.63*	44.60	3.42E-007	5.81E-008
BI-214	0.660	300.09	3.41		
		609.31*	46.30	4.44E-007	7.16E-008
		934.06	3.21		
		1764.49	15.80		

* = Energy line found in the spectrum.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 1.000 sigma

 ***** INTERFERENCE CORRECTED REPORT *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (uCi/gram)	Wt mean Activity Uncertainty
K-40	0.996	3.08E-006	4.26E-007
CO-60	0.988	2.47E-006	8.23E-008
CS-137	0.988	8.47E-008	3.88E-008
BI-211	0.548	9.88E-007	1.88E-007
PB-212	0.672	3.42E-007	5.81E-008
BI-214	0.660	4.44E-007	7.16E-008

Total Activity 7.42E-006

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.000 sigma

***** UNIDENTIFIED PEAKS *****

Peak Locate Performed on: 4/17/09 3:15:45 PM
 Peak Locate From Channel: 100
 Peak Locate To Channel: 4096

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
1	76.84	3.37E-002	37.85
4	583.18	2.47E-002	25.11

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.000 sigma